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THE GAZETTEER

OF

BOMBAY CITY and ISLAND.

Volume I.

(COMPILED UNDER GOVERNMENT ORDERS.)

Price Rs. 6, or 8 Shillings.

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1909

PREFACE.

The Gazetteer of the City and Island of Bombay was originally intended to form the last of the monumental series of District Gazetteer volumes to the compilation of which the late Sir James Macnabb Campbell, K.C.I.E., devoted the greater portion of his life. Various circumstances however combined to prevent the final completion of the scheme and at the date of Sir James Campbell's departure from India the public finances were unable to bear more than the cost of printing three volumes of historical materials which he had collated and arranged as the foundation of the future official account of the City and Island. So matters remained until 1906 when the present compiler was directed to resume the work at the point where Sir James Campbell had perforce relinquished it, being instructed at the same time to frame the account on less elaborate lines than those formulated by the founder of the Gazetteer of the Bombay Presidency. This order of the Government of India has obliged the compiler to prune and omit much of the information contained in the syllabus originally drawn up by Sir James Campbell. It is hoped nevertheless that the three volumes now submitted to Government and the public will be found to contain all the information essential to a comprehensive grasp of the history of the City and Island under various aspects. They who desire more detailed knowledge of facts and events relating to the early period of British dominion may suitably consult the three volumes of materials (Bombay Gazetteer, Vol. XXVI, Parts I—III) which represent Sir James Campbell's priceless contribution to the history of this city.

In the compilation of these three volumes many friends have lent generous aid. Mr. A. M. T. Jackson, I.C.S., wrote the article on the Hindu period of history and has read and revised the proofs of the whole work. Com-

mander Rowand and Lieutenant Headlam of the Royal Indian Marine respectively contributed the account of the Government Dockyard and the history of the Marine. Mr. D. R. Vaidya, Head Surveyor to the Collector of Bombay, wrote the whole of the chapter on Land Administration; Mr. R. S. Taki contributed the chapter on Education; and Rao Saheb P. B. Joshi, F.R.G.S., wrote the account of Hindu customs and festivals. Others who assisted in the compilation of the chapter on Population were Messrs. D. J. Samson and E. M. Ezekiel, Mahomed Yusuf Khatkhate and B. K. Dhurandhar, who wrote respectively the account of the Bene-Israel, the Konkani Muhammadans and the Pathare Prabhus. Mr. H. A. Talcherkar supplied valuable notes upon the Kolis and their fisheries and the Bombay mill-hands; Mr. D. A. Pai supplied, under the orders of Mr. C. Burns, photographs and a list of various turbans worn in Bombay. Mr. E. Comber wrote the account of the animals and birds of the island; Professor Gammie supplied the section on Botany; and Mr. N. A. Moos wrote the article on Climatology. Acknowledgments are also due to the Reverend Father Nicholson, who compiled the article on Christian missions, to Mr. Shapurji B. Broacha who undertook to supply the account of Exchange and Investments, to Mr. N. W. Kemp, Bar.-at-Law, who wrote the article on money lending, to Mr. R. K. Dadachanji who forwarded an account of Speculation, and to Mr. W. E. Waite who wrote the article on Municipal Finance. Mr. Godinho compiled the history of the Telegraph, Mr. L. W. Michael was responsible for the account of the smaller industries and Mr. Abdul Razzak supplied a full account of the local markets and fisheries. To Messrs. Jivanji J. Modi and D. E. Wacha the compiler is also greatly indebted for contributions and revision of proofs of various portions of the work; while Mr. Faizullah M. Taki of the City Police rendered very great assistance in the collection of materials for the Musalman portion of the chapter on Population.

In conclusion the compiler has to express his thanks to Government offices, Railway, Tramway and other public companies who have done their best to assist his labours, and finally to his head clerk, Mr. G. A. Gupte, and Mr. G. M. Thenge, of whom the latter has compiled the index of the volumes and the former has by the closest study and most continuous application rendered himself practically joint compiler of the work.

October, 1909. S. M. EDWARDES.

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BOMBAY CITY GAZETTEER.

CHAPTER I.

DESCRIPTION.

Configuration, boundaries and dimensions.

The City of Bombay, the capital of the Bombay Presidency and the principal Sea-port of Western India, is situated on an island in 18° 55′ N. and 72° 54′ E. This island is one of a group lying off the coast of the Northern Konkan, and in former times, as the map will show, was itself composed of seven small islands which, by means of connecting causeways and breakwaters to shut out the sea, have been converted into a promontory of solid land, measuring about 3 miles in width at the northern end and narrowing to a point of rock at Colaba, its southern extremity.[1] This peninsula or, as it is still called, island of Bombay covers an area of 22·48 square miles and is united at its northern extremity with the larger island of Salsette (Thana District), and so continuously with the

[1] Lady Falkland in Chow-Chow, Vol. I. (1857), remarks :—"What is now called the island of Bombay was in times of yore divided into at least three islands, Colaba being one. But they are now united by raised causeways and by the filling up of shallow estuaries. The length of the island is 8 miles, with an average breadth of 3 miles. It is about 20 miles in circumference."

Govind Narayen in his Marathi account of Bombay (1863) remarks :—"The early records show that Mahim was an island and the capital of Raja Bimb. Bombay (stretching from the Fort to Paidhoni) was then a separate island under that chief. Besides these two there were five other islets,—Colaba, Mahalakshmi, Varli, Mazagon, Sion. It is believed that Walkeshwar and Girgaum were also separated by a creek, but there is no evidence to support this."

Fryer in his New Account of East India and Persia (1675) thus refers to the group of islands to which Bombay belongs :—"Bombay in East India is one of the islands of Salset, parted from that part of the Canarick coast which lies nearest Daccan, 60 leagues north of Goa and as many south of Surat. These islands are in number seven, *viz.* :—Bombaim, Canorein (Kandheri), Trumbay, Elephanto, the Putachoes (Butcher's), Munchumbay and Kerenjan, with the rock of Henery Kenery; arising as so many mountains out of the sea."

mainland, by means of two causeways, one at Sion, the other at Mahim, and two railway embankments.[1]

It consists of a low-lying plain about $11\frac{1}{2}$ miles long by 3 to 4 miles broad, flanked by two parallel ridges of low hills, which, intersecting below high-water level beyond Colaba, form the dangerous reef marked by the Prongs Lighthouse. Point Colaba, the headland formed by the longer of these ridges, protects the harbour, lying on its eastern side and measuring 6 miles in breadth, from the force of the open sea. The other ridge terminates in Malabar Hill; and between the two lies the shallow expanse of Back Bay. This false harbour is one of several beautiful bays, accessible only to fishing-boats, which indent the western shore for a distance of 8 miles from Colaba to Mahim.

The island is in shape a trapezoid, and is popularly likened to a hand laid palm upwards, with the fingers stretching southwards into the sea and the thumb representing Malabar Hill, with Back Bay between the thumb and forefinger. Others discover in it some similarity to a withered leg with a very high heel (Malabar Hill) and pointed toe (Colaba). On a slightly raised strip of land between the head of Back Bay and the harbour is situated the original site of the Fort, the nucleus of the modern city, now chiefly occupied by stately public buildings and mercantile offices: and from this point the land slopes westward to the central plain, which before the construction of the embankment known as the Hornby Vellard was liable to be submerged at high tide. In the north and east large schemes of reclamation have similarly shut out the sea and partly redeemed the foreshore for commercial uses. In the extreme north of the island a large tract of salt marsh still remains unreclaimed.[2]

General aspect 1294—1534.

Old Marathi documents and the statements of early European writers have proved conclusively that

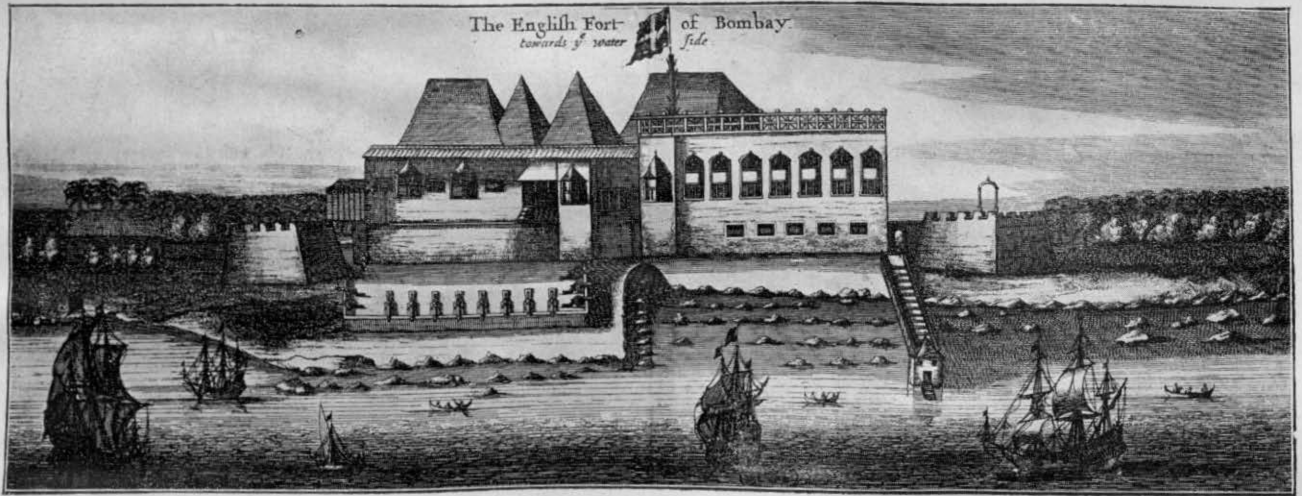
[1] In 1841 the length of Bombay island from north to south was about $6\frac{1}{2}$ miles, and its extreme breadth near the Fort about one mile. The area of Bombay and Colaba together was nearly 19 square miles, of which one-fiftieth was included in the Fort.

—The Bombay Times, May 29th, 1841.

[2] These two paragraphs are for the most part taken from the revised edition of the *Imperial Gazetteer*.

Bombay originally consisted of seven separate islands, which remained practically unaltered in shape until the eighteenth century. During the era of later Hindu and Muhammadan sovereignty, the two southernmost islands, afterwards named Colaba and Old Woman's Island, formed a broken tongue of rocky land marked by a few fishermen's huts and divided from the third island by a wide strait of considerable depth at high tide. The south-eastern portion of the third island, which resembled in some degree the letter H, contained a rude landing-place (Apollo Bandar) used by the aboriginal fisherfolk ; and beyond that a wide and level plain dotted with palm-groves and tamarind-trees, amid which nestled the habitations of Bhandaris, Agris and others. The plain was commanded by a hill (Dongri), around which had gathered groups of Koli fishermen who used the tamarind-dotted foreshore for mending and building boats and drying nets : and between this hill and the larger eminence on the west (Malabar Hill) lay groves and orchards of jack-trees, brabs, ber-trees and plantains, extending to and perhaps covering the outskirts of the considerable hamlet which formed the original nucleus of the modern Girgaum. A pathway known as *Shidi* (the ladder) led from the village and the shrine of the local Gramadevata or village goddess up the jungle-covered slope of Malabar Hill, and thence through babul-plantations to the great banian-girt temple of Walkeshwar and the Shri Gundi or stone of purification on the very edge of the sea. On the northern foreshore of Malabar Hill stood three temples of Mahalakshmi, Mahakali and Mahasaraswati, which were destroyed during the period of Muhammadan domination, and below the hill on its eastern side were several low-lying fields, rudely cultivated and subject to periodical inundation by the sea.

The hill was absolutely severed from the seventh island, now known as Varli, by the great breach through which the sea at high tide "poured with all the fury and pleasure of an Arabian colt" ; and similarly on its eastern side the third island was severed from the fourth (Mazagon) by the creek of the fig-tree (Umarkhadi) and the foot-



From *Baldæus' Voyage*, 1672.

VIEW OF BOMBAY FORT FROM HARBOUR, 1670 A.D.

his description of the harbour : —"On entering Mombaim there is on the left a little less than a quarter of a league from the bar-point a bastion (or battery) situated on the margin of the river, which has not more than a square platform of about ten walking paces, on which are planted two iron pieces of ordnance of spoon, each of two pounds of iron shots, which play only seawards. On the land side there are the houses of the Vazadar (Vatandar (?)) or lord of the manor (Senhorio) of the Cassabé (Kasba), which means a town or village, of Mombaim."[1] Barring the existence of the church on the Esplanade, which included among its parishioners the convert Kolis of Cavel, the Quinta or Great House of the lord of the manor, and several new churches and buildings belonging to the Portuguese religious orders in the north of the island, the aspect of Bombay can have suffered but little change since Hindu and Muhammadan times.

Fryer's account of Bombay in 1664 may be accepted as an accurate description of the island at the close of the period of Portuguese supremacy and during the early years of the British occupation.[2] On Cook's landing in Bombay, "he found a pretty well-seated but ill-fortified house (on the site of the present Arsenal) ; four brass guns being the whole defence of the island, unless a few chambers housed in small towers, convenient places to scour the Malabars, who were accustomed to seize cattle and depopulate whole villages by their outrages. About the house was a delicate garden, voiced to be the pleasantest in India, intended rather for wanton dalliance, Love's artillery, than to make resistance against an invading foe. Within the Fort were mounted 120 pieces of ordnance, and in other convenient stands 20 more, besides 60 field-pieces ready in their carriages to attend the militia and Bundaries. * * * * * At a distance enough from the Fort lies the town, in which confusedly live the English, Portuguese, Topazes (Indo-Portuguese), Gentoos, Moors, Coolies and Christians—mostly fishermen. It is a full mile in length ; the houses are low and thatched with 1664.

[1] Livro das Plantas das Fortalezas, quoted by Da Cunha, Origin of Bombay, page 169.

[2] Fryer's New Account of East India and Persia, 1675.

oleas of the cocoa-trees; all but a few the Portuguese left and some few the Company have built. The custom house and warehouses are tiled and plastered and instead of glass use panes of oyster-shells for their windows. There is a reasonably handsome bazaar at the end of the town looking into a field where cows and buffaloes graze (the east end of the Esplanade). The Portuguese have a pretty house and church, with orchards of Indian fruit adjoining. The English have only a burying-ground called Mendham's Point (between the Sailors' Home and the Cooperage), from the first man's name therein interred, where are some few tombs that make a pretty show at entering the haven; but neither church nor hospital, both of which are mightily desired.

"On the back side of the towns of Bombaim and Mahim are woods of cocoas under which inhabit the Bundaries (those that prune and cultivate them), these hortoes (oarts) being the greater purchase and estates in the island for several miles together, till the sea breaks in between them, over against which up the bay lies Massegoung, a great fishing town, peculiarly notable for a fish called bumbalo, the sustenance of the poorer sort, who live on them and batty field. The ground between this and the great breach is well ploughed and bears good batty. Here the Portuguese have another church and religious house belonging to the Franciscans. Beyond it is Parell where they have another church and demesnes belonging to the Jesuits (Parel Government House), to which appertains Sion manured by Coonbees, where live the Trasses or porters also. Under these uplands the washe of the sea produce a lunary tribute of salt left in pans or pits made on purpose at spring tides for the overflowing, and when they are full are incrustated by the heat of the sun.

"In the middle between Parell, Mahim, Sion a Bombay is a hollow wherein is received a breach, runn at three several places, which drowns 40,000 acre good land (the Flats), yielding nothing but phire, athwart which from Parel to Mahim



From *Baldæus' Voyage*, 1672.

VIEW OF BOMBAY FORT FROM ESPLANADE. 1670 A.D.

of a stone causeway made by Pennannees[1]. At Mahim the Portuguese have another complete church and house: the English a pretty custom-house and guard-house: the Moors also a tomb in great veneration for a *Peer* or Prophet. This side is all covered with trees of cocoas, jawks and mangoes. In the middle lies Verulee (Varli) where the English have a watch. On the other side of the great inlet to the sea is a great point abutting against Old Woman's Island, a rocky woody mountain which sends forth long grass. Atop of all is a Parsee tomb, lately reared: on its declivity, towards the sea is the remains of a stupendous Pagoda near a tank of fresh water (Walkeshwar) which the Malabars visited it mostly for[2]. Thus we have completed our rounds, being in circumference 20 miles, the length eight, taking in Old Woman's Island, which is a little low island of no other profit but to keep the Company's antelopes and beasts of delight."[3]

The following description of the island in 1742 is given[4]. "To the extreme south lies the point called Koleo with a few scattered houses, and next to it Old Woman's Island, upon which some houses and a gunpowder mill have been erected and which we let for a rental of Rs. 200 a year. Across the strait lie the old Apollo Parish and the Esplanade; the latter not greatly altered save that its palms have been thinned, the former still remarkable for its burial-ground, Mendham's Point. From the burial-ground the traveller reaches the ditch and Apollo Gate, and entering the latter and plodding northward he remarks on his right 1742.

[1] Grose in his voyage to the East Indies thus refers to the Great Breach in 1754:—"About two miles out of town towards the middle of the island the sea had so gained upon it with its irruption that it almost divided the island in two, and made the roads impassable. The causeway (vellard) is above a quarter of a mile in length and of considerable breadth; but there is one gross fault remarked in it, that being bending near its middle, the architect has opposed to the sea a re-entering angle instead of a saliant one. In the meantime there still lies within the breach a considerable body of water that has a free communication with the sea, as appears by its ebbing and flowing, and probably is but the wholesomer for it."

[2] Grose (Voyage to the East Indies) refers to this pagoda and tank of fresh water in 1754.

[3] Elsewhere Fryer speaks of the island as "most of it a rock bove water."

[4] ..dwardes' Rise of Bombay, pp. 165-169.

hand the Royal bastion and beyond it the Marine yard and Docks. On his left lies a jumbled mass of dwellings and shops, stretching from the road westward to the town-wall. He leaves on his right hand the hospital and doctor's house, the house of the Superintendent of Marine, the marine store-house and the Company's warehouses, and pauses not till he stands in the midst of a large tree-dotted space, the old Bombay Green. Immediately to westward he sees the church (St. Thomas' Cathedral), and beyond it the great Church Gate and the bridge over the Town ditch. On his right, at the most easterly point, stands the Fort proper with its Flag-staff bastion, Tank bastion and the house of the Governor. Northward he passes across the Green, leaving on his right the Mint, the Tank house, the Town Barracks and the Customs-house, the two latter buildings being on the water's edge, and sees directly in his path a foundry and smiths' shops. These form the southern limit of the Bazaar Gate street, up which he wanders past Mapla Por, past shops, godowns and native dwellings, past all the cross lanes and alleys which intersect the native town on either side of Bazaar Gate street, and finally arrives at the Bazaar Gate which is the most northerly entrance to the town.

"North of Bazaar Gate were more native houses, oarts, and the Dongri Fort, erstwhile a prison, but transformed into a fortress once again in the year 1739. Thence one gazed across a wide expanse of low-lying ground to Malabar Hill, let on a yearly lease for about Rs. 200. On the Back Bay side of the intervening ground are the great palm-groves, oarts and villages, which were noticed in earlier years; and north of them is new land reclaimed from the sea by the Love Grove dam. The latter had not entirely sufficed to shut out the ocean; that benefit was effected later by the building of the Vellard: but there was a larger area available now for cultivation than formerly. The higher portions of the ground thus reclaimed must have shown signs of habitation by the year 1744. The people were beginning to build dwellings in areas now comprised in the Chakla, Umarkhadi, Mandvi and Bhuleshwar sections. Whether the Fig-tree

Creek (Umarkhadi) and the Footwash (Paidhoni) were anything more than mere names, we cannot with certainty say; but are inclined to believe that the works at Mahalakshmi had by 1744 left them high and dry. Northward again was Mazagon village and the fort armed with three guns and garrisoned by one sergeant and twenty-four men. Mazagon contained one of the six great Koliwadas of Bombay which together yielded Xs. 7,000 (about Rs.4,846) a year. Other Koli hamlets were found at Varli, Parel, Sion, Dharavi and in Bombay proper. It was not a long walk from Mazagon to the village of Parel with its hamlets Bhoivada, Pomalla and Salgado; and thence one wandered to Vadala, divided into Aivadi and Govadi, and formerly owned by the Jesuits of Agra. In Sewri and Vadala there were salt-pans belonging to the Company, as also at Rauli; while the village of Matunga or Matuquem was entirely devoted to rice cultivation. The *Kasba* of Mahim contained 70,000 cocoa-palms, of which about 23,000 belonged to the Company, several gardens and rice-fields, and a *bandvastae* or distillery which together with another in the *Kasba* of Bombay proper realized Xs. 2,000 a year.

"To protect the island, its population of 70,000, its gardens, groves, rice-lands, fisheries, grave-yards and salt-pans, there were the Bombay fort and town-wall, the Mazagon and Dongri forts, the Sewri fort with a garrison of fifty sepoys, one *Subedar* and eight or ten guns, a small tower and one breastwork with nine to ten guns, sixty soldiers and one captain, at Sion, the triple-bastioned fort of Mahim with one hundred soldiers and thirty guns, and lastly the Varli fort, armed with seven or eight guns and manned by an ensign and twenty-five soldiers."

Parsons[2] who visited the island in 1775 speaks of the town being nearly a mile in length from Apollo Gate to that of the Bazaar, and about a quarter of a mile broad in the broadest part from the Bandar across the Green to Church Gate. The streets were well laid out 1775-78

[1] For a description of houses, gardens, the Green, Walkeshwar and Colaba at this period, see Grose, Voyage to the East Indies, 1772.

[2] See Edwardes' Rise of Bombay, p. 205.

and the buildings so numerous and handsome as to make it an elegant town. The Esplanade was very extensive and as smooth and even as a bowling-green "which makes either walking or riding round the town very pleasant." Three years later (1778) Forbes[1] speaks of the principal town of Bombay, and of "a smaller town called Mahim and several villages in different parts of the country"; and, after describing the Fort and the bazaar, remarks:—"The island of Bombay should now no longer be considered a settlement or separate colony but as the metropolis (surrounded indeed by a large moat) of an extensive domain. For this island, only 20 miles in circumference and almost covered with houses and gardens, will soon become a city similar to the outer towns of Surat and Ahmedabad; smaller indeed by eight miles in its circumference than the latter in the zenith of her glory and much less than London at this present day."

1830-38. By 1830 the aspect of Bombay had so greatly changed that Mrs. Elwood[2] was able to write of extensive suburbs leading from the Esplanade to enclosed pleasure grounds and such a constant succession of gentlemen's houses that it reminded her of the neighbourhood of London. The Fort had rather the appearance of a large irregular village than a town, and the houses with their wooden verandahs and venetian blinds appeared more Swiss than oriental. She mentions numerous villages besides the Fort, namely Mazagon, Byculla, Mahim, Matunga and others, "the greater part of which may be considered as one town, considered by high authority to be more populous than any other equal space on the

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[1] Oriental Memoirs, Vol. I., Chap. viii. Vol. III., p. 437.

[2] Mrs. Elwood's Narrative of an Overland Journey to India, 1830.

Note that Mrs. Graham (Journal of a Residence in India) gives a pleasant account of Bombay in 1813, describing the Fort, the houses, the burial and burning-grounds along the Backbay foreshore, and the outlying villages: and a good description of the island as seen from the harbour is given by Captain John Seely in his Wonders of Elora, 1825.

For a description of Bombay in 1821 see Monuments de L'Hindustan by Langlis, pp. 80-82.

globe." Bishop Heber also noticed in 1838 that there was "scarcely any open or grass-land in the island, except the Esplanade before the Fort and the exercising ground at Matunga, which last is the headquarters of the artillery".[1] But perhaps the best general idea of the outward appearance of Bombay at this date is given in the following extract from the *Asiatic Journal* of May-August 1838. "Bombay harbour presents one of the most splendid landscapes imaginable. The voyager visiting India for the first time, on nearing the superb amphitheatre, whose wood-crowned heights and rocky terraces, bright promontories and gem-like islands, are reflected in the broad blue sea, experiences none of the disappointment which is felt by all lovers of the picturesque on approaching the low, flat coast of Bengal with its stunted jungle. A heavy line of hills forms a beautiful outline upon the bright and sunny sky; foliage of the richest hues clothes the sides and summits of these towering eminences, while below, the fortress intermingled with fine trees and the wharfs running out into the sea present altogether an imposing spectacle on which the eye delights to dwell.

"The island of Bombay does not exceed twenty miles in circumference, and communicates with that of Salsette by a causeway built across a channel of the sea which surrounds it. It is composed of two unequal ranges of whinstone rock with an intervening valley about three miles in breadth, and in remoter times was entirely covered with a wood of cocoas. The Fort is built on the south-eastern extremity of the island and occupies a very considerable portion of ground, the outworks comprehending a circuit of two miles being indeed so widely extended as to require a very numerous garrison. The town or city of Bombay is built within the fortifications and is nearly a mile long, extending from the Apollo gate to that of the bazaar, its breadth in some places being a quarter of a mile. The houses are picturesque in consequence of the quantity of handsomely carved woodwork employed in the pillars and verandahs; but they are inconveniently crowded together, and the high

[1] Bishop Heber's Narrative of a Journey through India, 1838.

conical roofs of red tiles are very offensive to the eye, especially if accustomed to the flat-turreted and balustraded palaces of Calcutta. The Government-house which is only employed for the transaction of business, holding durbars—a large convenient but ugly looking building somewhat in the Dutch taste, occupies one side of an open space in the centre of the town called the Green. The best houses and a very respectable church are situated in this part of the town, and to the right extends a long and crowded bazaar amply stocked with every kind of merchandize. Many of the rich natives have their habitations in the bazaar, residing in large mansions built after the Asiatic manner but so huddled together as to be exceedingly hot and disagreeable to strangers unaccustomed to breathe so confined an atmosphere. One of the principal boasts of Bombay is its docks and dock-yards : they are capacious, built of fine hard stone, and are the work of Parsi artisans many of whom from their talents and industry have risen from common labourers to be wealthy shipbuilders. These docks contain commodious warehouses for naval stores and are furnished with a rope-walk which is the admiration of those who have visited the finest yards in England, being second to none excepting that at Portsmouth.

"The island of Bombay from an unwholesome swamp has been converted into a very salubrious residence. Though enough of shade still remains, the super-abundant trees have been cut down, the marshes filled up and the sea-breeze which sets in every day blows with refreshing coolness, tempering the solar heat. The native population which is very large has cumbered the ground in the neighbourhood of the fortifications with closely built suburbs, which must be passed before the visitor can reach the open country beyond at the further extremity of the island. The Black Town, as it is called, spreads its innumerable habitations amidst a wood of cocoa-nut trees—a curious, busy, bustling but dirty quarter, swarming with men and the inferior animals and presenting every variety of character that the whole of Asia can produce. The cocoa-nut gardens beyond this populous

scene are studded with villas of various descriptions the buildings within the fortifications being too much crowded together to be desirable. Comfort rather than elegance has been consulted in the construction of the major portion of these villas ; but any defalcation in external splendour is amply compensated by the convenience of the interiors. Those persons who are compelled by business or duty to live in the immediate vicinity of Government House only occupy the houses inside the fortifications during the rainy season : at other periods of the year they live in a sort of *al fresco* manner peculiar to this part of the world. A wide Esplanade, stretching between the walls of the Fort and the sea and of considerable length, affords the place of retreat. At the extreme verge a fine hard sand forms a delightful ride or drive, meeting a strip of grass or meadow-land which, with the exception of a portion marked off as the parade-ground of the troops in garrison, is covered with temporary buildings."[1]

The outward appearance of the city and island has undergone an immense change since the words just quoted were written, and even since the late Mr. J. M. Maclean 1909.

[1] The Bombay Times of 8th January 1842 remarks :—"On one side betwixt the Fort and the sea is a stretch of almost level ground, 387 acres in area and about 1800 yards in length along the shore. It is the finest ground for dwelling houses in the island, but the eight-hundred yards of batteries forbid the erection of permanent buildings. A line of temporary erections of about three-quarters of a mile in length supplies the place of houses. These are constructed of wood with a trellis-work of bamboo and are surrounded with canvas like an overgrown tent. They are thatched with cadjans and lined inside with curtains or ornamental coloured cloth. They are chiefly occupied by the highest class of Military Officers and Civil Servants of Government. Beyond this is a large encampment for officers temporarily residing in Bombay. These structures are not only far too slight to withstand the winds and rain of the monsoon, but the garrison regulations require that they shall be removed once a year. Up to the middle of May then we have a line of beautiful rustic villas which extends nearly a mile along the seashore. All at once these disappear and the Esplanade for a few days presents a very unsightly appearance. The first fall of rain covers everything with grass, and the Esplanade, which was on the 15th May covered by a town and on the 1st June presented an unsightly desolation, is by the 15th June a bright greensward."

Mrs. Postans (Western India in 838, page 13) also notices this aspect of the Esplanade, and states that the expense of erecting such a temporary bungalow varied from Rs. 600 to Rs 800. Mrs. Postans' work should be consulted for further descriptions of Bombay at this period.

compiled his account of the city in 1875. To the north-east and north the fishing-villages and the rice and salt lands of Sewri, Matunga and Sion, to the north and north-west the palm groves which encircle the straggling bazaar of Mahim, to the west the Varli-Malabar ridge of high land thickly sown with the residences of the rich, and in the extreme south the promontory of Colaba set apart for the military, fringe and narrow the area of the city. Except the north where the flat land is waste or is used for scattered country residences and factories, and the Esplanade and great public buildings of the west, the city area both in the Fort section and in the native city further to the north is so packed with huge many-storied warrens that it contains four-fifths of the 977,822 residents of the island.

The high flat ledge to the east of the reservoir plateau on Bhandarwada hill commands one of the most complete and central views of Bombay and its surroundings. Beyond the Tank Bandar foreshore and the busy portions of Frere Bandar stand the quarried face of one of the smaller eminences[1] fringing the eastern side of the island and several mills clustered at the foot of the woody slopes of Golangi hill. To the right the bare sides of Rauli and Antop look out over the fishing village, the gunpowder magazine and the ruined fort of Sewri. In the distance behind Sewri hill looms the dim table-land of Tungar (2250 ft.). Closer at hand and stretching eastward are the jungle-covered slopes and waving outline of Salsette, its central hills gathering in three main points above Vehar, Tulsi and Yeur. Further east across the north bay and mud flats of the harbour, behind the green swamps and gray salt lands of Mahul or north-west Trombay, rise the knolls of Parshik ; and over them, thirty miles inland, seen only in the clearest air, the lofty deep-cleft crest of Mahuli (2815), the guardian of the Tansa lake. At the east foot of Bhandarwada hill the half mile belt which stretches eastward to the harbour, with fair wealth of plantains, coco-palms, tamarinds, mangoes and pipals, is thick

[1] This is known as Brae Hill. It may be the Scotch word "brae", but is more likely an English corruption of "(Am)brai", meaning the mango-grove.

with russet-roofed yellow-faced dwellings, from which stand out the picturesque pale-gray façades of two Portuguese churches. Fringing the foreshore are the Peninsular and Oriental Company's dockyard, the Mazagon landing-pier, the Clerk and Frere basins, the Malet basin and the British India Company's dockyard. Further south, close to the hill foot, are the net-work of sidings and the long lines of low gray sheds that form the Wadi Bandar terminus. On the left out of acres of shed roofs rises the Port Trust clock-tower, beyond which the bulk oil installations stand out like fortresses dominating the foreshore; and between the tower and the harbour are the rectangular pit of the Merewether dry dock, the broad basins of the Prince's and Victoria wet docks, and the unfinished outline of the Alexandra and Hughes docks. South, over the Wadi Bandar sheds and sidings, for more than two miles stretch in weird chaotic confusion piles of many-storied dwellings, their white and yellow walls and façades crowned with peaked gables and brown-tiled hummocky roofs, surmounted here and there by a flat view-terrace.

Beyond these miles of densely-crowded dwellings, on the left at the edge of the harbour stand the tower of the Port Trust Offices (Mody Bay), the Ballard Pier, the Mint, the Town Hall, the ancient Arsenal and the Custom House. Southward again the spire of the Scotch church leaps skyward, and beyond it are the dim outlines of the Sailors' Home and the vast mass of four and five-storied buildings, overshadowed by the dome of the Taj Mahal Hotel, which have sprung up of late years on the Apollo reclamation to meet the increased demand for European accommodation. To the right there rises from the rough sea of roofs a notable cluster of public buildings—the light pinnacles of the Cathedral, the lofty crocket-ribbed dome of the Victoria Terminus, the peak-roofed finials of the Elphinstone College and Secretariat, the rounded summit and tiny minarets of the huge Municipal Buildings, the tall square shaft, statued drum and plumed pinnacle of the Rajabai Clock-tower (280) overtopping a welter of lofty roofs, the steep rail-tipped roof of the short High Court tower

(180), the domes of the Bombay, Baroda & Central India Railway Offices and the turrets of the Public Works Secretariat, the General Post Office and the Telegraph Office, which gaze down upon the handsome buildings of the Chartered Bank of India and of the Bombay City Improvement Trust. South of the Rajabai Tower appears the line of lofty dwellings which occupy a portion of the old Cooperage and end in the new Admiralty House; while to the right out of the distant low green line of Colaba rise the spire of the Afghan Memorial Church and the far-seen column of the Prongs Lighthouse (146). In the middle distance to the right of the High Court the high-pitched roof of the Esplanade Police Court, the clock-tower of the Crawford Market, the finial of the Gokuldas Tejpal Hospital and the lantern of St. Xavier's College show like islands in the sea of roofs and treetops. To the west, close at hand, are the reservoir, filter-beds and gardens of the lower western top of Bhandarwada hill.

Beyond Bhandarwada hill to the south-west, behind the line of the Great Indian Peninsula Railway, stretches the scarped cliff of Naoroji hill (192), its top and western slopes thick with houses. Further west, from the broken congeries of roofs that spread to the palms of Girgaum, stand out the wide enclosure and the lofty turrets and pinnacles of the Jamsetji Jeejeebhoy and Motlibai Hospitals. Still more to the right, among the brown roofs that lead to the factories of Tardeo and the foot of Cumballa Hill, rise the cupola of the Synagogue, the obelisk of Byculla Church, and the twin slender spires of St. Mary's Church. To the north-west between the Bhandarwada reservoir and the gray of the Flats, the crowd of brown roofs is partly hidden by the gardens and mango orchards of Mazagon, while over all gleam the white golden-spiked dome and minarets of His Highness the Aga Khan's tomb and the peak-roofed tower of the Technical Institute. Further to the right across the middle distance, as far as the green belt of the Mahim palm-groves, stretch the Flats bristling with many a lofty chimney-stack and dark with masses of huge steam-factories, the most distant being the Kohinur

mill at Dadar and the Jacob mill, and northward of these lie the lately built villas of Matunga and the sinuous line of the new Port Trust Railway.

Round this great city, to the north-east east and south, stretch the broad waters of the harbour, according to the hour and the season blue, golden, tawny or steel gray, with its flocks of small white-winged harbour craft, and, at their moorings, lines and clusters of lading and discharging steamers, fleets of peak-prowed lofty-pooped seafaring *baglas*, *dhingis*, and *kotias*, and a sprinkling of stately square-rigged ships. Among the shipping opposite the Carnac Bandar lies the bare rocky mound of Cross Island, and about two miles south off the Apollo Bandar the small flat circle of the Middle Ground Shoal. Across the harbour the north-east is filled by the long brown back of Trombay (1000), sloping south to the point of Pir Pav. In the east rises the low greenery of Hog Island. In midwater lies the flat rocky line of Butcher's Island and behind it the woody hills of Elephanta (658), and to the south-east the separate sharp-cut crests of Little (760) and of Great (980) Karanja.

Inland, beyond the low broken line of the Parshik hills, the shivered cliffs and the flat-topped bluffs of the Tavli-Matheran range fill the whole eastern view. In this range from north to south, beginning from the left or north end of the range, are the bastions of Tavli, the Cathedral Rocks of Bhau Malang (2300), the smaller buttresses of Mhas-Mala, the pillar of Navra-Navri, the castle crest of Chanderi, the low fortified head of Peb, the long walls of Matheran and Prabal (2500), the broken pillars of Isalgad, the False Funnel, and of Karnala (1540) the True Funnel, and the comb of Manikgad (1800). In the extreme east, through breaks in the Matheran range, looms the dim line of the Western Ghats. Behind the comb of Manikgad to the left are the gap of the Bor Ghat and the heights round Khandala and in the clearest air the more distant forts of Visapur (3550) and Lohogad (3415). To the right the knuckle tip of Nagphani or the Duke's Nose stands in front of the long plateau of Sakarpathar (3000) and the

saw-toothed outline of Jambhulni, with, in clear air, more distant peaks, perhaps Tung and Tikona in Bhor. South of Jambulni the line of the Western Ghats rises in a group of noble hills of which Devgad, Morva, Visakar, Koarigad, Masagaon, and part of Saltar (3322) in south Poona are visible, and the rest of Saltar and Tel Baili also in south Poona and Bhorap in Bhor are hidden by the slope of north Karanja. In the gap between the two Karanjas stands the wooded western top of Mira Dongar the Pen hill. Further south between the west point of Great Karanja and the Bluff in north-east Alibag the long hill-flanked valley of the Amba river or Nagothna creek winds twenty-six miles south into the heart of the Bhor hills. About ten miles south of the Alibag Bluff, from a sharp cliff overhanging the Amba creek, the main range of the Alibag hills stretches west till, near the fortified top oi Sagargad (1164) it is cloaked by the beacon-bearing slope of the Alibag Bluff. To the right the crest of the Bluff sweeps south and west rising to the sacred wooded head of Kankeshvar (1261), which falls westward to the sea and the faint outlying circle of Kenery island. Behind the western spur of Kankeshwar stands the bare block of the western Sagargad range, centreing in the point of Parhur (1050). Fifteen miles south over the low lines of the Alibag palms the land ends in the dim level crest of the Roha and Janjira hills. From the palm groves of Alibag, past the low line of Henery (Underi) and the rocky knoll of Kenery (Khanderi) the sea spreads round the points and reefs of Colaba and so across the tree-fringed curve of Back Bay, until it is hidden by the woody bluff of Malabar Point which rises gently northwards to the houses and palmyra-crowned crest of the Malabar (280) and Cumballa (250) ridges. North-west, across the palm-dotted curve of the great Vellard, spreads a second vision of open sail-brightened ocean, broken for a space by the woody hillock of Love Grove and again opening on either side of the rock of Martand, till it is once more lost behind the bushy crest of Varli (200). The broken line of the latter section leads northward till the circle is completed in the palm-groves of Mahim and the leafy gardens and rice-lands of

Parel and Matunga, overtopped by the casuarinas of Bandora hill and the long ridge of Pali.[1]

The origin of the name of the island has been the object of much speculation in the past. Englishmen of the seventeenth century believed it to be a corruption of the Portuguese *Buon Bahia* (Good Bay) and to be proof of the attachment of the Portuguese to the island's excellent harbour. Fryer, for example, spoke in 1673 of the "convincing denomination Bombaim quasi Boon Bay"[2]; Ovington remarked in 1689 that the island was "originally called Boon Bay or Good Bay in the Portuguese"[3]; while Grose in 1750 refers to "Buon-Bahia now commonly Bombaim."[4]

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This meaning-making is older than the seventeenth century; for Dom João de Castro, writing in 1538, says the island was called Boa Vida (Good Life), because in 1528 Heitor da Silveira's men found much refreshment and enjoyment in its beautiful groves, its game and

[1] This account has been revised from the General Administration Report of the Bombay Presidency for 1892-93. Other good views of the island are obtainable from the Ridge of Malabar Hill and the summit of Altamont Road, Cumballa Hill. A description of these views will be found in the *Imperial Gazetteer* (revised edition), and in J. M. Maclean's Guide to Bombay (corrected up to 1900), page 304. The latter authority, speaking of the view from Malabar Hill, writes :—"Perhaps the best point of view is the cliff or the Ladies' Gymkhana, a favourite evening rendezvous, and the best time is just before sunset. A poet might well say that "Earth hath not anything to show more fair" than the glorious panorama of water, wood, hill, shipping and the stately edifices of a great city which here strikes and fascinates the eye. * * * A double bay lies below, intersected by the island city which, buried at its base in plantations of palm-trees, emerges midway into a succession of noble buildings, whose faults of detail are lost in the distance, while the harmonious grandeur of the whole, mass is enhanced by the parting rays of the sun shining full upon them. From this culminating point of splendour, the city tapers away towards Colaba in a gently curving promontory just broad enough to mark and complete the perfect outline of Back Bay Beyond stretches the broad harbour with its islands; and the mountains of the Konkan, with their battlemented summits, form the background of the picture. Perhaps, although Bombay does not like England appeal to the imagination by the charm of great and holy memories, it might not be esteemed sacriligious to apply to her, thus seen at sunset, or still better in the tropical radiance of the moonlight, the words of the poet :—"A precious stone set in the silver sea."

Fryer's New Account of East India and Persia, 1698.

[3] Ovington's Voyage, 1689.

[4] Grose's Voyage to the East Indies, I, 29. 1766.

abundance of food.[1] This Boa Vida, like the later Buon-Bahia, is merely an attempt to explain the more ancient Musalman and Hindu names, Manbai, Mambai or Mumbai. According to the Gujarat histories a Hindu chief held the islands of Mahim, Manbai and Thana in 1430 [2]; while Manbai or Mambe is mentioned in the Mirat-i-Ahmadi under the dates 1507, 1571, 1578 and 1583 A. D. [3]. The earliest European writers to mention the name were Gaspar Correa who speaks of Bombaim in 1508 [4], and Barbosa who writes of Thana-Mayambu in 1516 [5]; while various references by Portuguese writers to Mombaym, Bombain, and Bombayim occur in 1525, 1538, 1543, 1552, 1554 and 1563 [6]. Bombaim was the form used by Balti in 1583 [7], and Bombain that of the Dutch traveller Baldœus in 1666 [8]; while in the same year Thevenot speaks both of Bombaye and Bombaüm [9]. Bombay is used by John Viau in 1626 [10]; Bombay appears upon a rupee struck by the English in 1667 [11]; and in 1676 Tavernier refers to the famous port of Bombeye [12].

What then is the real origin of the name? Some have supposed that it is derived from *Mubarak* (lucky) and was given because the island was the first land sighted by seamen voyaging from Arabia and the Persian Gulf to

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[1] De Castro's Primeiro Rotundo, 81. Also see Edwardes' Rise of Bombay, p. 67.

[2] Forbes' Ras Mala. II, 350.

[3] Bird's Gujarat, 110, 129, 134, 214; Bayley's Gujarat, 18, 21, 116, 218, 222.

[4] Correa's Lendas. I. 926.

[5] Stanley's Barbosa, 68. See also Maclean's Guide to Bombay (1900), p. 2.

[6] Yule and Burnell's Hobson Jobson.

[7] Purchas' Pilgrimage, 615.

[8] Churchill's Voyages. III, 540.

[9] Thevenot's Voyages. V, 40 and 248.

[10] Birdwood's Record Report, 214.

[11] Yule and Burnell's Hobson Jobson.

[12] Tavernier's Voyages. Ed. 1678. Part II., p. 6. It may be noted that although the form Bombaim continued in use till the eighteenth century, the present spelling, Bombay or Bombai, occurs in 1538 in Dom Joao de Castro's *Primeiro Roteiro* (p. 81): and although Fryer has Bombaim in the body of his book, the form Bombay heads his map of 1672 (New account of East India and Persia, p. 61).

Sopara, Chaul and Thana.[1] Colonel Yule on the other hand believes Mumba to have been the original form of the Muhammadan Manbai, while others form the name from the juxtaposition of Munga and Ai, Munga being reputedly the name of a Koli who built the original temple of Mumbadevi. Of these three derivations, that of Colonel Yule is almost certainly correct; and must have been borrowed from the shrine of Mumba Devi, which is known to have stood near the *Phansi Talao* or Gallows Pond, a site now included in the enclosure of the Victoria station of the Great Indian Peninsula Railway, and which was removed about 1760 with other buildings to its present site, in order to admit of the completion of the Esplanade and the erection of fresh fortifications.[2] In the present day the shrine of Mumbadevi situated at the south-west corner of the great Mumbadevi tank, in the very heart of the city, is accorded more general reverence than perhaps any other shrine on the island.

Prolonged investigation leaves little room for doubt that the word Bombay is directly derived from the goddess Mumba, the patron deity of the pre-Christian Kolis, the earliest inhabitants of the island; and it only remains to ascertain the original form of the goddess's name. Sir James Campbell believed it to have been a corruption of Maha Amma, the Great Mother, the local manifestation of the universal influence of the great goddess Parvati,[3] and he recorded the following explanations of

[1] A passage in Frazer's Khorasan (p. 29) suggests this origin by recording that the first land sighted on entering the Persian Gulf was known to Sailors as Bombarak (the Lucky). Bombay Town and Island Materials, Part III, p. 644.

[2] See Murphy in the Transactions of the Bombay Geographical Society for 1844, Vol. I., 130. "Mumbadevi's temple was moved to its present site about eighty years ago."

Captain Hall, R.N. (Fragments of Voyages and Travels, Vol. III. (1832)) who was in Bombay in 1812 writes:—"The word Bombaya struck the ear of the native boatmen, who pointed in the direction to which they themselves were steering, and called out 'Mombay! Mombay!' This word, I am told by an oriental scholar, is a corruption of Moombadevy or the Goddess of Moomba, from an idol to which a temple is still dedicated on the island."

[3] Mrs. Graham in her Diary of a Tour in India (1809) described the Mumbadevi temple as the largest pagoda in Bombay, and states that by her image and attributes the goddess seems to be the wife of Siva, Parvati.

the change. "One explanation is an association with the word Mumb or water-pot, the jar so much used as a guardian-dwelling in Hindu temple and house rites. That Mumb is the original form of the name Mumbe finds support in the jingling assonance Trumb, the apparent root of the name of the neighbouring island Trombay. Still the absence of any reference to the water-pot, either in the legends or in the temple or image ornaments, and the fact that the universal Dasara (September-October) brass pot inauguration in Mumbadevi's temple is known as *Ghat*, not as *Mumba Sthapana*, takes almost all probability from this suggestion."[1]

"An important incident in the history of the island favours another origin of the local form Momba. Early in the fourteenth century, apparently in 1317 or 1318, [2] in the gleam of vigour which brightened the first year of his reign, the Emperor Mubarak Shah, otherwise known as Sultan Kutb-ud-in (1317—1320), spread his power from Daulatabad in the Deccan to the coast and

Forbes in his Oriental Memoirs (III. 443) mentions that the island is called by the Brahmans Maha-Mahadevy or Maha-Mahadev, and mistakenly adds that this may be interpreted the island of the great god or Shiva.

Sir James Campbell further remarks :—"Mahamadevi seems to be the Surat goddess with the head of a deformed woman, whom in 1660 Tavernier (Ball's Edition, II. 198) names Mama-Niva, and to be the Mahamaai of Nagarkot or Jalandhar, described in the *Ain-i-Akbari* (1583, II. 109) as the wife or power of Mahadev. As regards the Bombay Mumbadevi the form Mahamma explains the curious name Mahomed Davey's Tank applied in the Principal Engineer's report of 1777 to a tank close to the former Mumbadevi shrine to the north-west of Fort George. To the common people of Kathiawar and Cutch Bombay is still Momai, and to the Sanskrit-knowing Maha Maya, the Great Glamour.' Bombay Town and Island Materials, Part III., 645.

1 Compare in Madras Siva's title, Kumbhesvaram, Lord of the Water Pot. Wilson (Works III, 188) says the jar is a common but curious substitute for the goddess. Forbes (Ras Mala I., 300) says the founder of a village sets up a water vessel as an emblem of the family goddess. To call a jar a substitute for or an emblem of a goddess is rather to miss the religious sense of the sanctity of the jar. The jar is properly the home of the goddess or influence, a dwelling abiding in which the wandering fiend settles into the kindly guardian. All through Hindu ritual and Hindu architecture the jar or pot is the spirit home. Bombay Town and Island Materials, Part III., p. 645.

2 The exact year is disputed. See Elliott's History, III, 211 and 561. See Chronology of India by Mabel Duff, where the date is given as 1318.

overran Salsette and Bombay [1]. The local traditions that Mubarak Shah or his captains destroyed temples and persecuted Hindus in Bombay are borne out by the accounts of the Franciscan monks, Jordanus and Odoric, who were in Thana about 1320 and who describe how the country had lately passed under the Saracens who had destroyed an infinite number of temples [2]. So grievously did the Bombay Hindus suffer that the name Mubarak Shah still lives in local tradition as Mumbarakshasa, the demon Mumba. The fact that the pun has been preserved in Bombay tradition, coupled with the well-known practice of gods and goddesses taking as a title the name of a conquered demon, seems a natural explanation why the local Maha-Amma was turned into Mumba [3]. The sudden slackening of Mubarak's hold over Bombay, perhaps news of the mad passion, cruelty and lust, which, according to Ferishta, during his two remaining years made Mubarak's reign and name too infamous for history [4], would to the Brahmans of Bombay seem possession by the avenging fury of the local Mother whom he had dishonoured. This suggestion may seem fanciful. It receives confirmation from the following passage from the *Mahatmya* or Panegyric on the Bombay temple of Walkeshwar quoted in Mr. Murphy's article on Early Bombay in the Bombay Geographical Society's Transactions of 1844 (Vol. I, page 130): "The temple (of Mumbadevi) was built shortly after the Hindus of Bombay had suffered in their religion from the tyranny of Mubarak Shah." This statement seems to imply some sudden cessation of Mubarak's interference with Bombay, which the Hindus attributed to the guardian influence of the local Mother, and in honour of the result

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1 The Musalman historians are vague. According to the Tarikh-i-Firoz Shahi (Elliott's History III, 210, 214-215) in 1318 all the Marathas were brought into subjection. Ferishta (Briggs, I, 389) has no special mention of the Konkan conquests.

2 Jordanus Mirabilia, 23.

3 Of the practice of Guardians adopting as a title the name of some conquered fiend examples may be cited in Mahishasuri, that is Devi the destroyer of the Asura or fiend Mahish, and in Tripureshvar or Siva who slew the fiend Tripura. The idea is a root idea. The spirit of the slain passes into the slayer: the spirit of the victim passes into the god to whom the victim is sacrificed.

4 Brigg's Ferishta, I, 389-393; Elliot's Musalman Historians, III. 216-217.

gave her as a title the name of the defeated foe Mubarak Shah, the demon Mumbarakshasa."[1]

After commenting upon the connection between the King Mombaros, mentioned by the author of the Periplus of the Erythrean Sea (A. D. 247; McCrindle, 113), and Bombay, Sir James Campbell gives his final decision that Mumba is a special form of Maha Amma, the Great Mother, designed to glorify the local guardian by embedding in her name a trace of the defeated Mubarak Shah.[2] It is however possible that the name is a corruption of Maha-Amba-ai (the Great Mother Amba), Amba being a synonym of Parvati, wife of Siva, and the suffix 'Ai,' meaning 'mother,' being a term of respect often applied by Marathi-speaking Hindus to their goddesses. This view is corroborated by the fact that the Hindus, even of to-day, speak of the city as "Mambai" or "Mumbai."[3] Other authorities however consider that this derivation is not phonetically possible and trace the origin of the name to Mommai the title of a village-goddess in Kathiawar.

[1] "The tradition that the name Momba is taken from some demon conquered by the local Mother has also been elaborated into a local Sanskrit Puran of uncertain date. The Puran tells how the demon Mumbaraka by faultless devotion won from Brahma the boon that no man, demon or god, should overpower him. Armed with the certainty of victory, Mumba wasted mankind. His victims prayed to Vishnu; and the guardian, calling to his aid Siva and Brahma, from their united splendour produced a smiling eight-armed goddess. For seven days she fought with the demon Mumba. On the eighth she hurled him from his car. Before slaying him the goddess asked Mumba to name a boon. "Goddess," he replied, "be pleased to take my name Mumba." The goddess agreed, and the demon worshipped, blessed her and died. This legend is quoted at pages 30 to 34 of *Bombay Past and Present*. The author,GovindNarayan, adds :—'This demon was perhapsMubarak I,a hater of the Hindu religion,who after himself may have called the chief place on the islandMumbapur orMubarakpur.' No known evidence supports the suggestion that Mubarak called Bombay after himself. But if as quoted by Mr. Murphy, the temple to Mumbadevi was built soon after Mubarak's army retired from Bombay, the fact that the goddess's title is the name of the Hindu-hating emperor Mubarak Shah is well-nigh established." Bombay Town and Island Materials, Part III., 647. Compare Edwardes' Rise of Bombay, page 42.

[2] Bombay Town and Island Materials, Part III , 645.

[3] Edwardes' Rise of Bombay, p.p. 42, 43. The acceptance of Amba as the middle word of the compound gets rid of the tautology inherent in Sir James Campbell's Maha-Amma-ai. Other examples of the use of the suffix 'ai' (mother) are Jogai (Joga+ai and Gorai (Gauri or Gori + ai), a village in Salsette. It is worth remark that Amba is as much a personification of the aboriginal goddess Parvati as is the more widely-known goddess Kali; and hence that both Calcutta (Kali-ghat) and Bombay derive their

Other Place-Na[mes] in the Isl[and]

Regarding the nomenclature of individual portions of Bombay, it is a reasonable supposition that Colaba is the same word as Kolaba, the name of the district which lies on the far side of the harbour. Antonio Bocarro spoke of Colaba as "the islet called Candil" in 1634[1]; in the time of Gerald Aungier it appears as Colio[2]; Anderson calls it Colaba in 1856[3], and the Abbe Cottineau de Kloguen mentions Culaba in 1827[4]. One derivation of the name is from Kolvan or Kolbhat, a Koli hamlet or holding—a view which gains weight from the fact that the Kolis undoubtedly settled here, as in other parts of the island, in prehistoric times, and also from the fact that there was an oart known as Kolbhat on the island during the early days of British rule.[5] On the other hand Molesworth states that the name of the mainland district is a corruption of the Arabic *Kalabeh*, meaning a neck of land jutting into the sea—a description which exactly fits Colaba.[6] The origin of Apollo (Bandar) is still undetermined. In Aungier's agreement (1672-74) it appears as Polo, while in 1743 it is written Pallo[7]; and the original form of these words is variously stated to have been Palva (a large war-vessel)[8], and Pallav (a cluster of sprouts or shoots).[9] A fourth derivation is from Padao (small trading-vessel), known to Bombay residents of the seventeenth and eighteenth centuries as the class

names from one and the same primeval deity. Mambai or Mambadevi is the primeval patron deity of the city and island of Bombay.

[1] Livro Das Plantas Das Fortalezas, quoted by Da Cunha, Origin of Bombay, page 169.

[2] Bombay Town and Island Materials, Part III, page 258, *et seq.*

[3] Anderson's English in Western India.

[4] Inst. Vasco Da Gama. Vol. III. 104, quoted by Da Cunha, Origin of Bombay, page 303.

[5] Da Cunha. Origin of Bombay, page 202.

[6] Molesworth's Marathi Dictionary, quoted in Bombay Gazetteer, Vol. XI, page 1 (Note).

[7] Da Cunha, Origin of Bombay, page 305.

[8] Da Cunha, Origin of Bombay, 305. Bombay Gazetteer, Vol. XIII, Part II, Appendix A, where it is suggested that Palva may be a corruption of the English Apollo.

[9] Da Cunha, Origin of Bombay, 306.

of vessels chiefly used by the Malabar Pirates.[1] Of the four derivations that from Pallav is perhaps the most plausible. Mandvi, which is written Mandovim in Portuguese documents and Mandavie in early English records, is the ordinary Marathi word for a Customs-House;[2] while Umarkhadi is obviously composed of *Umbar* (a fig-tree, *Ficus glomerata*) and *khadi* (a creek), and together with Paidhoni (*i.e.*, the Foot-wash) points to the inflow of the sea in early days into these portions of the island[3].

Cavel, which was originally occupied almost exclusively by Kolis, who were converted by the Portuguese and attached to the parish church that formerly stood on the Esplanade, has been considered a Portuguese corruption of Kol-war, a Koli hamlet, but may equally well be a corruption of the Portuguese word for a chapel; while Phanaswadi derives its name from the Phanas or jack-tree (*Artocarpus integrifolia*) which formerly grew here in abundance. The vegetable kingdom has indeed been responsible for many place-names on the island, as for example Borbhat, the garden of Bor (*Zizyphus jujuba*) in Girgaum; Vadala (Banian grove); Varli (Vadali), formerly written Varell and Verulee (the avenue of Banians)[4]; Chinchpooghly or Chinch-pokli (Tamarind Dell); Mingut-Mandali (Prickly-pear tract); Madmala or Manmala (the orchard of cocoa-nut palms), which is now called Mahim woods. In other parts we find Cumballa or Kambala hill

[1] "The place for mooring these boats was just in the little creek between the Bombay and Colaba islands. It was then called PadaoBandar, which in course of time became Polo and now Apollo Bandar. The road leading from Padao Bandar, called later on Palva Bandar, through the broad Esplanade to Girgaum, was then called Palva Road. As late as 1860, this long street, now named Girgaum Road, was simply Palva Road. Apollo is thus a transformation of Padao, after passing through the intermediate stages of Palva and Polo," Da Cunha, Origin of Bombay, 172.

[2] Da Cunha, *ibid*, page 317, quotes letter of March 10, 1677, from the Viceroy of Goa to his successor, in which the following words occur:—"The Moors give the name of Mandovis to what we call Custom-houses."—See also Edwardes' Rise of Bombay, 69 and 93.

[3] Edwardes' Rise of Bombay, 38; and Murphy's paper in the Transactions of the Bombay Geographical Society. Vol. I. 1836-38.

[4] Da Cunha. Origin of Bombay, pages, 58, 205, 208. Edwardes' Rise of Bombay, page 46.

(from Kambal, *odina wodier*); Babula tank and Babulnath (perhaps from the babul, *Acacia arabica*); Tardeo or Taddeo (the Brab god) and Tarvadi or Tadvadi (the Brab-garden); Bhendi (*Thespesia populnea*) bazaar; Sattad (Seven brabs) Street; and Chinch Bandar (Tamarind landing-place).[1]

Chowpatty is really Chau-pati (four channels) and is evidence of the inroad of the tide before the western foreshore was reclaimed [2]; Siri Road, which winds up to the ridge of Malabar Hill, is derived from the Marathi word *Shidi*, meaning a ladder or flight of steps [3]; while Girgaum was originally Giri-grama (the hill-village), albeit a few people have suggested a spurious derivation from *Girh* (a vulture).[4] Dongri, which appears in English writings of the seventeenth century as Dungrey [5] and Dungaree,[6] means the hilly tract from the Marathi word *Dongar;* while Mazagon is possibly a corruption of Machcha-grama (fish-village), in allusion to the large colony of Koli fisherfolk who settled there in prehistoric times. The name is variously spelt Mazaguao [7] by the Portuguese and Massegoung [8] by early English writers, and has been defined by some to be Mahish-grama (the buffalo-village) and by others to mean the central village on the analogy of the Marathi *Mazaghar* (the central portion of a house).[9] The last derivation is the most plausible.

Parel, which is written Parell by Simao Botelho,[10] has usually been held to derive its name from the tree Paral (*Heterophragma chelonoides*) or Padel (*Bignonia suaveolens*) although Niebuhr (Voyage II. 12) in 1763-64 gave rise to a suggestion that it was an incomplete form of Sans Pareil or Non Pareil, the incomparable, in allu-

[1] Bombay Town and Island Materials, Part III, 595.

[2] Compare the locality known as Satpati in the Thana District; Edwardes' Rise of Bombay, 39.

[3] Edwardes' Rise of Bombay, 19.

[4] Da Cunha, Origin of Bombay, 56.

[5] Clement Downing, History of the Old Wars (1737).

[6] A. Hamilton. New Account of East India and Persia (1744).

[7] Da Cunha, Origin of Bombay, 206.

[8] Fryer's Travels in East India and Persia.

[9] Da Cunha, Origin of Bombay, 59; Edwardes' Rise of Bombay, 10, 11.

[10] Da Cunha, Origin of Bombay, 205.

sion to the splendour of old Government House. It is equally likely that the name is a shortened form of Parali, given by the Panchkalshi community to commemorate the shrine of Vaijanath Mahadeo at Parali in the Deccan.[1] Bhuleshwar earns its name from the shrine of Siva in his form of Bhola (the simple)[2]; while Byculla, which was written Bhoycalem in 1767,[3] is held to be Bhaya-khala or the level ground of the Bhaya or Bawa (*Cassia fistula*).[4] An alternative derivation is from Khala (the threshing-floor) of Bhaya, the latter name being common among Agris and Kunbis.[5]

Breach Candy seems to mean the beach at the mouth of the hollow or pass, that is to say, the hollow between Cumballa ridge on the north and the Malabar ridge on the south. The use of breach for wave-breaking or surf, the modern beach, is common among writers of the sixteenth and seventeenth centuries.[6] By the middle of the eighteenth century the word seems in Bombay to have been locally applied to the break or gap in the rocks of the western shore, through which the sea flooded the Flats[7]; while Candy is the old spelling of Khind or Pass, as exemplified by Sir James Mackintosh's Ganesh Candy (1804) for Ganesh Khind.[8] The absence of either

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[1] The lingam in the temple of Mahadeo at Parel is reputed to be *Swayambhu* or self-generated and to be of equal sanctity with the lingam of Vaijanath Mahadeo at Parali in the Deccan. See Edwardes' Rise of Bombay, 34.

[2] Local tradition connects it both with Bhola, a rich Koli, and with Bholanath, a Pardesi, each of whom are said to have built the original temple of Bhuleshwar. The perpetuation of the name of a founder of a temple in the title of the deity is very common, *e.g.*, the shrine of Lakhadevi on Malabar Hill.

[3] Bombay Town and Island Materials, Part III, 445.

[4] *Ibid*, page 595.

[5] Edwardes' Rise of Bombay, 44.

[6] Shakespeare, Twelfth Night, II, 1. Sir Edward Michelburne (1604) in Kerr's Voyages, VIII, 91, writes: "At Sumatra the sea went with so violent a breach on the shore that the people could not land." Finch (1610) in Kerr's Voyages, VIII, 261, says: "St. Augustine in Madagascar may easily be found as it has breaches on either side." Davis (1602) in his Voyages and Works, 118, writes: "There was a sudden storm so that our ship did drive over a breach and our boats sank at the shore."

[7] Grose (1750. Voyage I, 52) says: "The causeway at the Breach where the sea has so gained on the land as nearly to divide the island." Also see Military Report of 1771 (Political Diary 14 of 1843) which notes that "from Varli to the Breach the sea is surrounded by sharp rocks." Bombay Town and Island Materials, Part III, 651.

[8] Life of Sir James Mackintosh, I, 276.

a tower or creek at this point militates against Dr. Murray Mitchell's derivation from Buraj-Khadi (the creek tower). [1]

Sion, which was called Siam by Fryer [2] and Syva by Simâo Botelho (1554) [3] is a Portuguese corruption of the Marathi *Simwa* (शिव), a boundary or limit, Sion village being the boundary between the island of Bombay and Salsette. Dadar is a name of comparatively late origin, for the whole of this locality was known to Fryer as Salvesong, [4] a corruption of Salvacão, the Portuguese parish of Our Lady of Salvation. The ordinary meaning of Dadar in Marathi is a bridge; and it is a reasonable supposition that at some early period a rude bridge was built here across a creek or arm of the invading sea. [5]

No trustworthy origin of the name Matunga has yet been discovered. In its earliest form it was perhaps Matanga-ali or Matangasthan, which would mean either the place of elephants or the place of the Mhangs.[6] As regards the former it is the merest conjecture that Bhimdeo, or Bimb Raja [7], may have stationed his elephants in this locality at the time he was ruling at Mahim; while the latter meaning is discountenanced by the fact that early writers never spoke of the low-castes of Bombay by this appellation.[8] Mahim on the other hand is undoubtedly the Portuguese equivalent of Mahikavati, the pompous Sanskritised form of *Mahi* meaning either the Earth or the Great (Goddess) which was the name given to the island by Bhimdeo's colonists. Fryer mentions it in 1698 under the name of Maijm; [9] Downing calls it Mayam in 1737; [10] while Murphy states that in ancient Marathi histories of

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1 See Yule and Burnell, Hobson—Jobson.

2 Fryer's Travels in East India and Persia.

3 Da Cunha, Origin of Bombay, 205.

4 Fryer's Travels in East India and Persia, page 67.

5 There is a locality of this name near Rajapur, Ratnagiri District, which owes its name to a bridge across the creek.

6 See Molesworth's Marathi Dictionary under Matanga.

7 See *infra* History chapter.

8 The name appears as Matuquem.

9 Fryer's Travels in East India and Persia.

10 Downing's History of the Old Wars (1737).

Bombay Mahim is referred to as Bimbasthan, Prabhavati and Mahikavati.[1] Sivri or Sewri, which Fryer referred to as Suri, is held to derive its name from Sivadi or Sivavadi (the place or garden of Siva),[2] or possibly from Shivarvadi [3]. The origin of Nagpada (the hamlet of the serpent) and Agripada (the hamlet of the Agris) is rendered clear by remembering that the suffix *pada* is identical with the Kanarese *padi*, meaning a village or settlement, and is one of the many words suggestive of a considerable Dravidian element in the early population of Bombay.[4]

Divisions, wards and sections.

The modern[5] administrative divisions of Bombay are to a large extent based upon the physical divisions of the island in ancient times. So long as the sea was allowed free ingress the area comprised within the island

1700-1850.

naturally resolved itself into Colaba, The Fort, the Esplanade and Malabar Hill, Mazagon, Parel, Mahim and Varli; and it is to these main areas that English writers of the eighteenth and early nineteenth centuries refer with occasional notices of scattered villages, such as Sion, Sewri and Walkeshwar, which subsequently lent their names to extensive administrative divisions. By degrees however, as population increased and spread away from the Fort and urban administration became organized, it became necessary to formulate more

1864

definite divisions. Thus in 1864[6] Government prescribed the limits of Bombay to be "the island of Bombay and Colaba and Old Woman's island," subdivided into the

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[1] Transactions of the Bombay Geographical Society, Vol. I, 1836-38. The *Bimbakhyan* records that prior to Bhimdeo's arrival the island of Mahim was known as Newale or Barad bet (Desert island).

[2] Da Cunha. Origin of Bombay, 58.

[3] Compare Gowaree (Gowadi) which is adjacent to Sivri.

[4] *See* Kittel's Kanarese-English Lexicon; Edwardes' Rise of Bombay, pages 19-21.

[5] In 1727 Bombay consisted of two towns, Bombay and Mahim, and eight villages, Mazagon, Varli, Parel, Vadala, Naigam, Matunga, Dharavi and Colaba. It had seven hamlets, two under Vadala, two under Dharavi, and three under Parel. It had five koli quarters and three salt-pans. (Michael 157.) Until 1780 and some time after Mahim was considered a suburb of Bombay (Bombay Gazetteer, Vol. xxvi, Part iii, 525) Varli we sometimes find included in Mahim.

[6] Times of India, 1864.

following areas :—

1. Colaba.
2. Fort.
3. Mandvi and Bandars.
4. Bhuleshwar.
5. Breach Candy.
6. Malabar Hill.
7. Kamathipura.
8. Mazagon Mount.
9. Chinchpokli.
10. Varli.
11. Mahim Woods and Matunga.

In the following year, which witnessed the passing of Act II of 1865 and the creation of a Municipal Corporation, the Municipal Commissioner was obliged for assessment purposes to formulate the following new scheme of wards[1] :— 1865

1. Colaba Ward.
2. Fort ,,
3. Mandvi ,,
4. Bhuleshwar Ward.
5. Umarkhadi ,,
6. Girgaum Ward.
7. Kamathipura ,,
8. Malabar Hill ,,
9. Mazagon ,,
10. Mahim and Parel Ward.

Of these main wards, Mandvi and Umarkhadi and the area immediately surrounding them were designated "The Old Town", while Bhuleshwar and the area extending from it to Byculla were known as "The New Town."

So far it had not been found necessary to subdivide the wards into sections; but by 1872 an immense growth of population and continuous building-operations rendered necessary a fresh distribution of the urban area. Thus in that year the following divisions were adopted :— 1872

		Sections.
A Ward	... Colaba, The Fort, Esplanade ...	3
B Ward	... Market, Mandvi Chakla, Umarkhadi and Dongri	5
C Ward	... Dhobi Talao, Phanaswadi, Bhuleshwar, Khara Talao, Kumbharwada, Girgaum, Khetwadi	7
D Ward	... Chaupati, Walkeshwar and Mahalakshmi	3
E Ward	... Mazagon, Tarwadi, Kamathipura, Parel and Sewri	5
F Ward	... Sion, Mahim, Varli	3
6		26

These subdivisions with slight alterations and the addition of six new sections have subsisted to the present day. The Municipal wards now number 7, subdivided into 32 sections, as shown in appendix I at the end of the chapter. 1909

[1]Annual Report of the Municipal Commissioner for 1865.

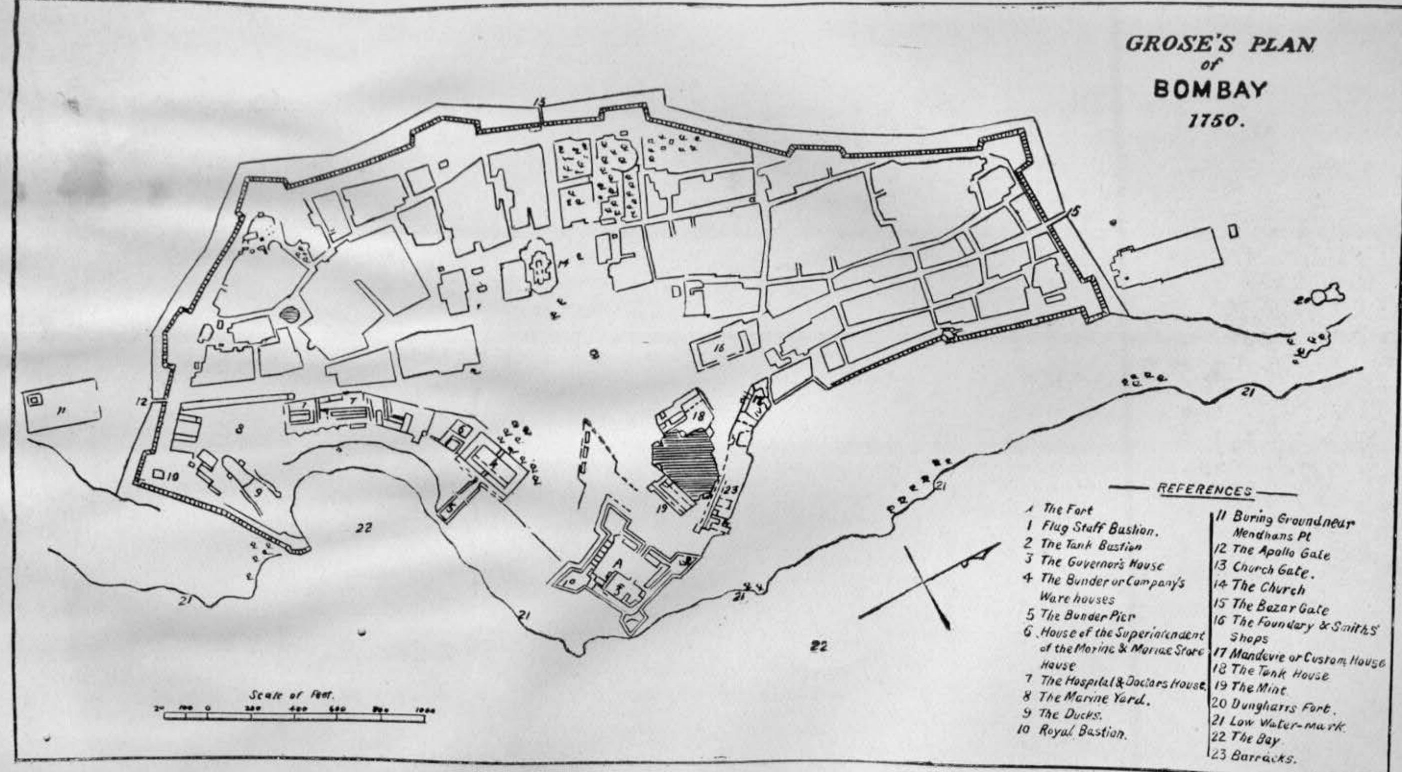
The Police divisions of the island correspond almost exactly to the Municipal Wards shown above and are divided into twenty-five subdivisions, of which four are comprised in each of the divisions A, B, C, and D, five in the E division, and two apiece in F and G. An extra police division, for the administration of the dock area, runs from Malet Bandar in the north to the Carnac basin in the south, with Frere Road as its western and the harbour as its eastern boundary.

Upper and Lower Colaba.

The Colaba section, which is bounded on the north by the Apollo Bandar and Wodehouse roads and the Wodehouse overbridge, and on the south, east and west by the sea, is divided into Upper and Lower Colaba by an imaginary line drawn across the land at the north wall of St. John's Memorial Church. The former area contains the lunatic asylum, the observatory, the shrine of a Musulman saint, and the barracks and quarters of the European garrison; the latter area contains the old Colaba village, various cotton-presses, the cotton-green, Sassoon dock, and the terminus of the Bombay, Baroda and Central India Railway. Its northern portion is a thickly populated residential quarter. The section is traversed by one main road, which bifurcates close to the Parsi sanitarium, the western branch following the line of the seashore to the Cooperage and Bandstand, and the latter following the line of the old Colaba causeway as far as the Wellington Memorial Fountain and the Apollo Bandar road.

South Fort.

The South Fort section, which is bounded on the north by Church Gate street and the northern arc of the Elphinstone Circle, on the south by the Apollo Bandar road, on the east by the harbour and on the west by Rampart Row, represents one portion of the original town of Bombay founded by the genius of Gerald Aungier and his successors. Its two main thoroughfares are Rampart Row, which follows the line of the old fortifications between the Apollo and Church Gates, and Marine street which is the land-boundary of the Government Dockyard; and its principal objects of interest are the Royal Bombay Yacht Club, the Sailors' Home, facing the Crescent Site upon which the Prince of Wales' Museum


GROSE'S PLAN
of
BOMBAY
1750.
REFERENCES
A The Fort
1 Flag Staff Bastion.
2 The Tank Bastion
3 The Governor's House
4 The Bunder or Company's Ware houses
5 The Bunder Pier
6 House of the Superintendent of the Marine & Marine Store House
7 The Hospital & Doctors House
8 The Marine Yard.
9 The Docks.
10 Royal Bastion.
11 Buring Ground near Mendhans Pt
12 The Apollo Gate
13 Church Gate.
14 The Church
15 The Bazar Gate
16 The Foundary & Smiths' Shops
17 Mandevie or Custom House
18 The Tank House
19 The Mint
20 Dungharrs Fort.
21 Low Water-mark.
22 The Bay
23 Barracks.
Scale of Feet.

is to be built, the Great Western Hotel, which formerly served as an Admiralty House and a Recorder's Court, the equestrian statue of His Majesty the King-Emperor, the old Secretariat, the Currency office, the Cathedral, the Town Hall, and the Customs House. Together with the North Fort section it constitutes the European business quarter of the island.

North Fort. Rampart Row merges beyond the Frere or Floral Fountain into Hornby road, so named after Mr. William Hornby who administered the affairs of Bombay at the close of the eighteenth century. This thoroughfare constitutes the western boundary of the North Fort section, which is bounded on the north by Fort street (Port Trust property) on the east by the harbour and on the south by Church Gate street and the Elphinstone Circle. Excluding Hornby road, the section is traversed from north to south by three main streets, the Bohra Bazaar and Bazaar Gate streets and the Frere road. The two former are old thoroughfares on the line of the original streets intersecting the town which grew up around the Fort; the latter which forms the boundary of Port Trust property owes its existence to the great reclamations of the harbour-foreshore which took place after 1860. The section as a whole represents the area in which the Parsi and other communities first commenced to settle about 1675: and its antiquity is proved by the existence of the remains of Gerald Aungier's original Court-house at the junction of Bohra Bazaar and Gunbow[1] streets, and a Parsi Agiari of great age. Of modern buildings the most noteworthy are the Mint, the Port Trust offices near the Ballard Pier and the Bazaar Gate Police Station, which, with the gardens and open space in front of it, marks the site of the old Bazaar Gate of the Fort.

Esplanade. The Esplanade section, as its name implies, is the modern representative of the old *maidan*, in which according to Fryer buffaloes and cows grazed, and which in later years was reserved as a glacis in front of the

[1] The curious name Gunbow is probably a corruption of "Ganba," the name of an ancestor of Mr. Jagannath Shankarset. Old records show that Ganbasett or Ganba Shet settled in Bombay during the first quarter of the eighteenth century and founded a mercantile business within the Fort walls.

Fort walls. Its south boundary is the Wodehouse road, to the north of which extend the Cooperage, the Oval, the Marine Lines *maidan* and recreation grounds of Bombay: its eastern boundary consists of Rampart Row and Hornby road; while on the west it is bounded by Back Bay and on the north by 1st Marine street and the Carnac or Esplanade Cross road, which represents the boundary between the European business quarter and the Native city. The southern portion of the section contains the great public offices of Bombay, built in a line facing Back Bay; the central portion contains the B. B. & C. I. Railway offices facing the line at Church Gate station, the statue of the Queen-Empress Victoria, the Bombay Gymkhana club and grounds, the Military parade ground and the Native Infantry lines, and three theatres; while the north and north-eastern area contains the European General Hospital and the Cama and Gokaldas Tejpal Hospitals, the Victoria Terminus of the Great Indian Peninsula Railway, the Municipal Offices, the Head Police Office, the Crawford Market, the office of the *Times of India*, the School of Art and other educational institutions. The whole section, as it exists to-day, may be described as a visible legacy of the Share Mania of the early sixties; for in the south are those ornamental edifices conceived in the first instance by Sir Bartle Frere, and in the north-east lies the serried line of streets leading to the harbour's edge which was called into existence by the reclamations commenced at that epoch.

Mandvi.

The Mandvi section, bounded on the north by Paidhoni road, 1st Chinch Bandar road and the Masjid Bandar siding road to the harbour, on the south by the Carnac road, on the east by the harbour and on the west by Chakla street and Jakaria Masjid road, is divided naturally into two distinct portions. The western half is intersected by narrow and irregular streets and constitutes one portion of the old town outside the Fort walls, which gradually grew up round the Kolivadi or Koli hamlet, situated a little to the north of the present Carnac road. This is an area to which the City Improvement Trust are devoting great attention, and

much demolition of insanitary dwellings has taken place in the neighbourhood of Dongri Koli street, which is perhaps the most valuable and best known street in the neighbourhood. The eastern portion from Argyle road is comparatively modern, being mostly reclaimed land, and contains the regular line of streets which debouch upon the Victoria Dock. Mandvi as a whole is a purely mercantile section with the docks on one side and the godowns and shops of native merchants on the other. The Masjid station of the Great Indian Peninsula Railway, which earns a name from a wealthy mosque in the neighbourhood, is situated about the middle of the section; and close at hand is the Masjid Bandar bridge, flanked by a row of lofty houses, in one of which occurred the first authenticated case of plague in 1896. The road, which connects the bridge with Frere road and the dock-area, is occupied by the great warehouses and granaries of the city.

Chakla section is likewise an area devoted to native *Chakla.* commerce. Bisected by Nagdevi street, which owes its name to an old shrine of the serpent, and bounded on the west and east respectively by Abdul Rahman street and Chakla street, the section runs due north from Carnac road to Paidhoni at the junction of which with the Kalbadevi and Parel roads lies the Paidhoni Police Station, built approximately upon the site of the old "Footwash." Abdul Rahman street, devoted to merchants of all denominations of whom the majority are Muhammadans, is the most commercially valuable street in the locality; while historically the most important area is Paidhoni, which roughly marks the boundary between the chief Hindu and Muhammadan quarters. In the Hindu-Muhammadan riots of 1893 Paidhoni was the centre of the *émeute;* and hither marched the main body of military and police which eventually succeeded in restoring order. A few yards beyond the police-station on the right-hand side a small road leads to the Minar mosque, which is about two centuries old.

Paidhoni road forms the southern boundary of the *Umarkhadi.* Umarkhadi section, which is bounded on the north by

Babula Tank road, on the east by Dongri street and the Jail Road East, and on the west by Parel road or, as it is familiarly termed, the Bhendi Bazaar. The southern half of the section is crossed by a number of irregular streets and lanes, of which Memonwada road and Nishanpada street are the most noticeable, and is occupied by an immense number of low-class tenement-dwellings and *chawls*. Of the buildings in this section the most noteworthy are the "Gate of Mercy" Synagogue, built by a Beni-Israel named Ezekiel in gratitude for his deliverance from the clutches of Tipu Sultan, and the Common Jail built in 1804 during the Governorship of Jonathan Duncan. In the neighbourhood of the jail live many Sidis, whose ancestors played so important a part in the early history of the island, and at a little distance from the jail is the old Babula tank, which has now been almost entirely filled up. The most important thoroughfare is the Parel road which runs north towards the chief centre of the mill-industry and the former residence of the Governors of Bombay. On the right hand, at the point where Parel road commences, is a Jain temple of no great outward attractions, but reported to contain large quantities of jewellery and precious stones; and on the opposite side a little higher up is a pretty little mosque belonging to the Shafai sect of Sunni Muhammadans. On either side of Parel road are the shops and dwellings of Musalman merchants, cloth-dealers, saddlers, booksellers and others.

Dongri. Dongri section, which is bounded on the north by the Wadi Bandar road, on the south by 1st Chinch Bandar road and Masjid Bandar road, on the east by the harbour, and on the west by Dongri street, Jail Road East and Mazagon road, approximates in character to Mandvi, in that it contains an ancient residential quarter and a modern sea-side area founded on reclaimed ground, the dividing line between these two quarters being the Great Indian Peninsula Railway line and the famous Naoroji hill. This hill, of which the Sett family are proprietors and which contains their ancestral mansion at its highest point, is the original Dongri hill, upon which a fortress was erected during the early years of

British dominion and whence the Sidi admiral of the Great Mughal on one occasion battered the English castle and fortifications. Prior to the era of Portuguese rule it contained a settlement of Kolis, the situation of which is approximately shown by the modern Koliwada. The western side of Naoroji hill has long been one of the most insanitary and crowded areas in Bombay, and was one of the localities upon which the City Improvement Trust first concentrated its attention after its constitution in 1898. The eastern portion of the section, which stretches from the foot of the hill to the harbour, is cut at right angles by the Argyle and Frere roads as far as their meeting with the Wadi Bandar goods station of the Great Indian Peninsula Railway; while the foreshore is occupied by the great Prince's Dock and its ancillary buildings, the foundation stone of which was laid by his Majesty the King Emperor in 1875.

Market.

The Market section derives its name from the three great cloth markets which fringe Sheik Memon street, its main central thoroughfare. The Kalbadevi road, which earns its title from a shrine of Kali or Kalikadevi, once located in the island of Mahim and removed to this locality during the period of Musalman dominion, forms the western and northern boundary of the section, while Carnac road and Abdul Rahman street form respectively its southern and eastern limits. Apart from the fact that an ancient settlement included between Lohar Chawl street and Vithalwadi lane lies within it, the section deserves more than ordinary notice as containing the famous Sheik Memon street, the Jama Masjid, and the temple and tank of Mumbadevi, the patron deity of Bombay. For more than fifty years Sheik Memon street has had the reputation of being one of the richest streets in Bombay. Outwardly its appearance belies its wealth, but the southern half is the business quarter of the richest cloth-merchants while the northern portion, known as the "Sona-Chandi Bazaar" contains the gold, silver and precious stones in which the great merchant-castes of Gujarat deal. It is always a busy thoroughfare, crowded with merchants at all hours of the day. At the

point where Janjikar street runs into it the eye rests upon the white façade of the Jama Masjid, built in 1802; and in the extreme north of the section lie the temple and tank of Mumbadevi, which were removed hither in 1766 from the spot where the Victoria Terminus now stands, in order to make room for fresh fortifications. About half way up Kalbadevi road stands a temple of Lakshmi Narayen built in 1875 by Mr. Mulji Jetha, a Hindu merchant, for the use of Hindus from Gujarat. It has a curious façade, adorned above with stereotyped figures of Hindu ascetics and below with representations of various deities, of which the central and most noticeable figure is the elephant-headed Ganpati. The southern portion of Kalbadevi road is crossed by one of the new streets, Princess street, projected by the Trust and opened by H.R.H. the Princess of Wales in November, 1905.

Dhobi Talao.

On the west of the Kalbadevi road lies the Dhobi Talao section, bounded on the north by Dady Shet Agiari street, Girgaum road, Sonapur lane and a footpath through the Muhammadan graveyard to the door of the Hindu burning-ground on Queen's road, and thence by a straight line running south-west across Queen's road to Back Bay. Its southern limits are Carnac road, 1st Marine street and the level-crossing of Marine Lines station, and its western limit is Back Bay. The section owes its name to an old tank, once included within the limits of the Esplanade, which was used by the washermen of an earlier epoch; and its north-easterly portion is composed of the historic area of Cavel, one of the original settlements of Koli fishermen, who were converted to Christianity during the era of Portuguese rule and were incorporated in the old Esplanade parish. Cavel is still the home of a large number of native Christians. It is separated by the great central thoroughfare of Girgaum road from another historic locality, known to earlier generations as Sonapur, and extending from Old Sonapur lane to a point nearly opposite to the Marine Lines station of the Bombay, Baroda & Central India Railway. This area contains the old burial and burning-grounds of the Island, both Hindu, Musalman and English: and the old English ceme-

tery here was known familiarly in 1814 as "Padre Burrows' godown," Burrows being the name of the garrison chaplain of that epoch. The wide area now occupied by the great thoroughfare of Queen's road, leading from the Esplanade to Malabar Hill, by the Bombay, Baroda & Central India Railway line, by the Parsi, Hindu and Muhammadan Gymkhana clubs and by the ride and footpath along the sea-face, is entirely reclaimed land : and it is almost impossible now to realise the aspect of the land prior to 1860 when the burial and burning-grounds were literally situated on the beach. Of modern improvements, the most notable is Princess street, referred to above, which runs from the Queen's road to Carnac Bridge across the former site of a grossly-insanitary area known as the "Dukkar Bazaar," from the fact that a pork-butcher's shop stood near the entrance from Queen's road.

Phanaswadi. Immediately north of the Dhobi Talao section lies the Phanaswadi section, so called from an orchard of jack trees which once flourished here. Bounded on the north by the Thakurdwar road, on the east by Portuguese Cathedral street and Bhuleshwar road, and on the west by Back Bay, the section in outward appearance closely resembles Dhobi Talao, and like the latter has been gradually transformed from a collection of oarts or garden estates into a densely-built locality, fringed on the west by ground reclaimed from the sea and devoted to a main road, railway-line and open sea-face. The last-named area has proved of the greatest use as a camping-ground during the cold season when the plague mortality commences to rise. Though the inhabited area is small, the section contains a comparatively large number of temples, of which perhaps the most noteworthy is the old Vaishnava shrine of Thakurdwar on the Girgaum road.

Bhuleshwar. Very different in appearance is the interior section of Bhuleshwar, so called from the great temple and tank of Bhuleshwar lying towards the south. Here the native Christian of Dhobi Talao and Phanaswadi disappears, the Parsis decrease in number, and the Jains and Hindus generally predominate. The section is bounded

on the north by Cowasji Patel Tank road and Erskine road, on the south by Dady Shet Agiari street, on the east by the Kalbadevi and Parel roads, and on the west by Portuguese Cathedral street and Bhuleshwar road. The section is divided up by a very large number of irregular and confined streets, the chief of which is Pinjrapol street, running east and west and so called from the Pinjrapol or home for diseased and aged animals, which was founded about 1835 by a Prabhu clerk in the office of Messrs. Forbes & Co. The Cowasji Patel Tank road owes its name to the son of one Rustom Dorabji who in 1692 placed himself at the head of a body of Kolis and assisted the English to repel an invasion by the Sidis. For this good work he was appointed by the Company Patel of Bombay, and a *Sanad* was issued conferring the title upon him and his heirs in perpetuity.

Kumbharwada and Khara Talao.

The two remaining sections of C ward are Kumbharwada and Khara Talao, both of which are bounded on the north by Grant road, which was constructed about 1840 during Mr. Grant's Governorship, at a time when its surroundings were practically open country. The Kumbharwada section is bounded on the west by Ardeshir Dady street and Trimbak Parashuram street, on the east by Duncan road and on the south by Cowasji Patel Tank road and Girgaum Back road. It is occupied largely by the lower and disreputable classes and is cut into two main portions by the great thoroughfare of Falkland road, constructed between 1866 and 1868. The north-east corner of the section forms a portion of the area familiarly known as "Two Tanks," from the fact that two of the ancient tanks of Bombay once stood here, and, being occupied by the turbulent classes, has served on more than one occasion as a focus of lawlessness. The north-western corner of the section is occupied by the Northbrook Gardens opened in 1873 to commemorate the visit of Lord Northbrook, the Viceroy, whose bust stands on the central path of the gardens. The Khara Talao section, bounded on the west by Duncan road, on the east by Parel road, and on the south by Erskine road, is chiefly occupied by Muhammadans and contains nine mosques. Its chief

object of interest is the Nall Bazaar Market opened in 1867, and so called from the fact that the main drain of the city flowed past this point in earlier times on its way to the sluices at Varli. The City Improvement Trust are engaged in opening out the crowded area situated between the Market and Parel road.

Khetwadi and Chaupati.

The straggling Khetwadi section, which is bounded on the south by Girgaum Back road, on the north by Grant road, on the east by Trimbak Parashuram street and Ardeshir Dady street, and on the west by the Kennedy Bridge across the B. B. & C. I. Railway and the Girgaum road, is a residential locality and contains no buildings of extraordinary interest except the Sassoon Reformatory in Charni road and a church and buildings of the Church Missionary Society near the railway. About 1838 it commenced to attract population and developed rapidly after the building of the Falkland and Charni roads, which intersect it, and the reclamation at Chaupati. The Chaupati section, bounded on the north by Girgaum Back road, on the south by Back Bay, on the east by Charni road and on the west by Gamdevi road, contains remnants of the oarts which once covered the whole of the locality, while the sea-face and the western end of the Khote footpath which skirts it occupy the site of the old Lakdi Bandar. The Wilson College is the most noteworthy building in this section which is cut in halves by the Bombay, Baroda & Central India Railway line, at the point where it curves inland to Grant road.

Girgaum.

The Girgaum section is bounded on the north by Girgaum Back road, on the south by Thakurdwar road, on the east by Girgaum Back road and Bhuleshwar road, and on the west by Back Bay and Charni road. Like Chaupati and Phanaswadi its interior portion has arisen upon the site of ancient oarts, such as Borbhat and Mugbhat, with the old Girgaum village as its original nucleus. Its most noteworthy buildings are the Muhammadan sanitarium at the corner of Queen's road, the old Police Court on Girgaum Back road, the Allbless Bagh on Charni road and the Portuguese Church opposite the Tram terminus. The latter building which

actually lies just outside the sectional limits was founded in 1773 and rebuilt in its present form in 1836. The neighbourhood of Charni road has of late years been taken up to some extent for the building of middle-class Parsi flats; but the bulk of the section still retains its old character as a Brahman settlement.

Walkeshwar and Mahalakshmi.

The Gowalia Tank road is the dividing line between the sections of Walkeshwar and Mahalakshmi. The former, which practically comprises Malabar Hill proper, has long been famous for the village and temples of Walkeshwar and Government House, which lie at its southern extremity; while towards the northern end of the hill are situated the Ladies' Gymkhana, the Malabar Hill reservoir and gardens, and finally the Parsi Towers of Silence. The latter stand in a historic locality mentioned by Dr. John Fryer in 1675, and together with the Ridge road command a splendid view of the western side of the island. Standing here at night one looks down upon the palm-groves of Chaupati and across the sweep of Back Bay to the High Court, the Rajabai Tower and the Colaba Lighthouse, the whole curve of land being jewelled with an unbroken chain of lights which has earned the appropriate title of "the Queen's necklace." There were houses on Malabar Hill occupied by Englishmen as early as 1788: but its growth as a residential quarter dates from the time when the Governors of Bombay relinquished their mansion at Parel in favour of the present house at Malabar Point; while its occupation by appreciable numbers of native merchants synchronized with the appearance of the plague, which renders the city almost uninhabitable for a considerable portion of the year. The Mahalakshmi section, bounded on the north by Clerk road, on the east by the Bombay, Baroda & Central India Railway, and on the west by the sea, has the double character of a residential and industrial quarter, the former occupying the summit and western slopes of Cumballa Hill, the latter the level ground on the east of the hill. Five large spinning and weaving mills front the Tardeo road, the most southerly being close to the corner of Forjett street, so named in memory of an officer of the Bombay Police

who, at the time of the Mutiny, by his foresight and extraordinary knowledge of the vernacular saved Bombay from a mutiny of the garrison. The most noteworthy buildings in the western portion of the section are the Parsi sanitarium on Gowalia Tank road and the Mahalakshmi temples at Breach Candy, which occupy the site of three old temples destroyed by the Muhammadans.

Mazagon and Tarwadi.

The Mazagon section,[1] bounded on the north by the Kala Chauki road, on the south by the Wadi Bandar road and Clerk basin, on the east by the harbour and on the west by Mazagon and Ghorupdev roads, is in its present form largely the outcome of extensive harbour reclamations. Around the Bhandarwada reservoir in the south-west still cluster remnants of the original village, which formed a part of the manor of the Tavoras in the seventeenth century; but the northern half of the section is cut diagonally by Reay road, on the east of which lie the Framji Petit mills and much land belonging to the Port Trust. The Tarwadi section, which lies between Mazagon and the Parel road, and between the Kala Chauki road on the north and the Babula Tank road on the south, is partly an industrial and partly a residential quarter. North of Connaught road, for example, there are 13 spinning and weaving mills, while south of Victoria road one meets the spacious bungalows and wide compounds which were so eagerly rented by the European and well-to-do native community at the time when the Governor of Bombay still lived at Parel.

First and Second Nagpada and Kamathipura.

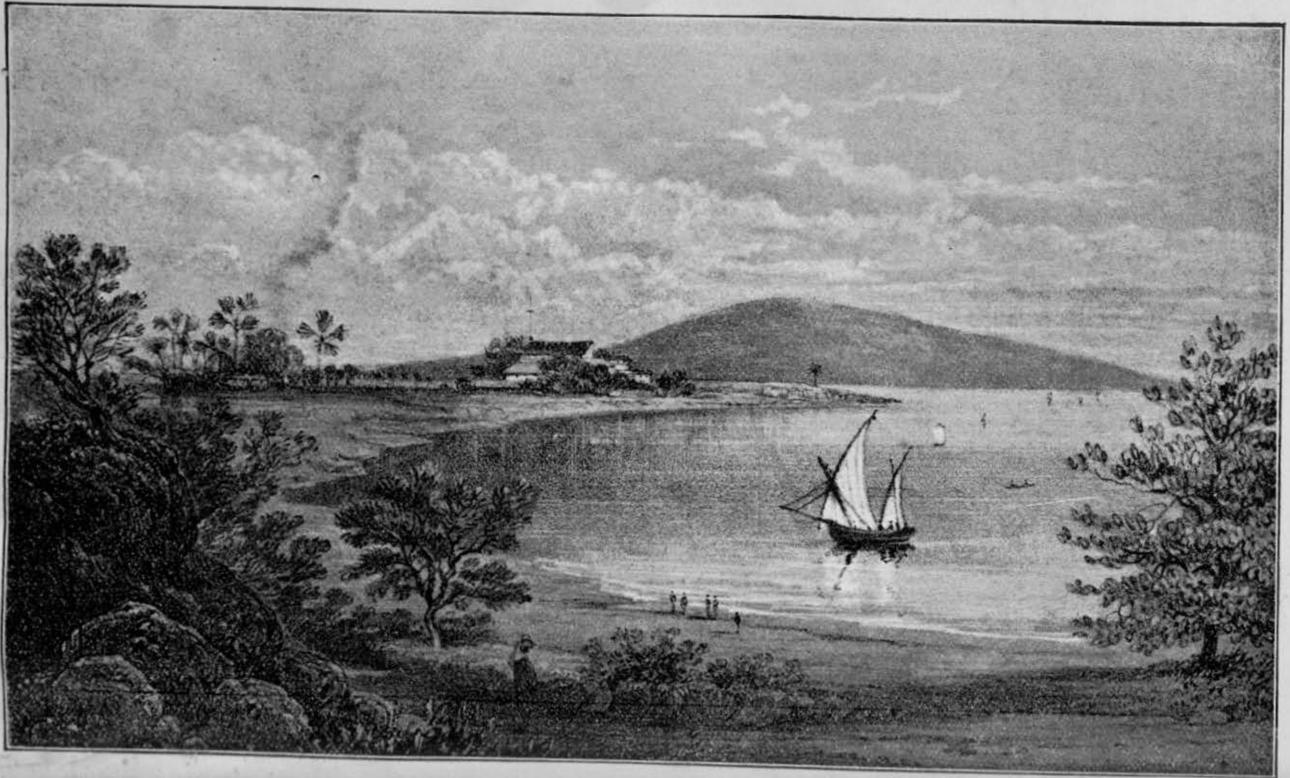
The 1st and 2nd Nagpada sections are divided by the Bellasis Junction road, but practically form one area, bounded on the north by Shepherd road, on the south by Grant road, on the east by Parel road and on the west by Duncan road. The whole locality approximately represents the limit reached by the inflowing tides

[1] Maria Graham says "the first walk we took was to Mazagong, a dirty Portuguese village putting in its claim to Christianity chiefly from the immense number of pigs. kept there. It is beautifully situated on the shore between two hills, on one of which is Mazagong house, a leading mark into the harbour. It has an excellent dock for small ships and is adorned with two handsome Romish Churches, but its celebrity in the east is owing to its mangoes which are certainly the best fruit I ever tasted."

before the Hornby Vellard was built, and was one of the most insanitary districts of the island until the City Improvement Trust took it in hand. It is now chiefly remarkable as containing the Police Hospital opened by Lord Lamington in 1904 and the model *chawls* for the working-classes built by the Trust. Kamathipura, which forms an almost perfect rectangle between Bellasis road, Duncan road, Grant road and Suklaji street, was until 1800 liable to periodical flooding by the sea, and in spite of considerable energy shown by the Municipality in artificially raising the level of the ground is still somewhat lowlying and feverish. The section, which earns its title from the Kamathis, a tribe of artizans and labourers who immigrated from H. H. the Nizam's Dominions towards the end of the eighteenth century, contains no building of interest and is occupied for the most part by the lowest classes of the population.

Tardeo and Byculla.

The Tardeo section, lying between the B. B. and C. I. Railway on the west, Suklaji street on the east, and Bellasis road and Grant road on the north and south, is cut diagonally by the Falkland and Foras Roads and is largely composed of reclaimed land. It forms a portion of the original Byculla Flats, much of which was let at a low rental by Government in earlier times on condition that the lessees reclaimed and improved the ground. The section is full of stables and may be described as the home of the Arab horsedealer. The Byculla section is bounded on the north by Kala Chauki road, Arthur road and Clerk road, on the south by Bellasis road (built in pre-mutiny days) and Shepherd road, on the east by Parel road and on the west by the B. B. and C. I. Railway. As in Tardeo the original level of the land has been artificially raised, and the disadvantages arising from natural circumstances and from a huge lower-class population are largely minimised by the six fine thoroughfares which cut through the section and meet in a point at Jacob's Circle. The latter spot, which was formerly known as the Central Station, was given its present name in 1886 in honour of General Le Grand Jacob, and was adorned in that year with an ornamental fountain provided by public subscription. Eight mills and eighteen factories



From *Life in Bombay*, 1852.

VIEW OF SEWRI, 18[illegible]

of other kinds testify to the industrial character of the section; and many stables will be found in the southern portion. Here also is situated the Byculla Club, the oldest club in Bombay, built in front of the original ace-course.

The Parel section, which is bounded on the north by the Elphinstone and Bhoiwada roads, on the south by Kala Chauki road, on the east by Parel Tank road and on the west by the Great Indian Peninsula Railway, has developed from a small village, which still exists in the north-east of the section, into a huge industrial quarter, with an intermediate stage when it served as an area of country villas and residences. The village, an old shrine or two, and such areas as Bhoiwada, are the only legacies still remaining of the time when Parel was first chosen as a settlement by the followers of Raja Bimb; old Government House, which is now used as a Bacteriological Research laboratory, recalls the supremacy of the Portuguese religious orders and the country-seats built hereabouts by the East India Company's servants in later years; while the modern character of Parel is proved by the existence of the G. I. P. Railway Company's workshops, of the densely-populated areas near Arthur road, and of 46 mills and factories. Notwithstanding modern industrial progress, the northern portion of the section still wears a country aspect, and the shady environs of Government House offer a faint impression of the appearance of Parel at the time when Sir James Mackintosh read the English poets to his family in that time-honoured mansion. Not far from Government House stands Lowjee Castle, the original home of the Wadia family, whose ancestors were shipbuilders to the East India Company. *Parel.*

The Sewri section, bounded on the north by Narayan Dabul lane and by an imaginary line skirting the north wall of the English cemetery, on the south by Jakariya Bandar road, on the west by Parel Tank road and on the east by the harbour, is still, save for some mills and their attendant *chawls* in the southern portion, an undeveloped area. The northern portion is occupied by the cemetery, once the garden of the Bombay Agri-horticul- *Sewri and Sion.*

tural Society, and by salt-pans which stretch eastward to the ruined fortress and the old Sewri village. The Sion section is of much the same character[1]. North of it lies the creek and causeway, on the east lies the harbour, on the west the G. I. P. Railway and on the south the Sewri section. In the south between the Parel and Dadar stations lies a thickly-populated area, while the open ground towards the Matunga station has been chosen as the site of several villa-residences during the last ten years. A portion has now been acquired for the erection of new workshops for the G.I.P. Railway Company. The whole of the northern portion is one desolate waste of salt-pans guarded by the bare hills of Antop and Rauli. Near the centre of the section a pleasant tree-shaded garden marks the presence of the Matunga Leper Asylum, while in the far north-west are the Sion fort and the original settlement of the Sion Kolis. Much of the interior portion of Sion is likely to be transformed by the operations of the City Improvement Trust, who are planning new roads and building-estates for the relief of the urban population.

Varli and Mahim.

The Varli and Mahim sections complete the area of the island. Both are bounded on the west by the sea and on the east by the G. I. P. Railway, and are intersected by the B. B. & C. I. Railway line : and both comprise many acres of open land. But whereas the Varli section contains 24 mills and may lay claim therefore to being an industrial section, Mahim has no factories and is chiefly remarkable for its woods of cocoa-nut palms; its dilapidated tanks and its Muhammadan shrine which have existed from pre-Portuguese times. The most noteworthy features of Varli are the race-course, which lies off Clerk road, the southern limit of the section, the Hornby Vellard and the City drainage works at Love Grove ; while on the spit of land forming the most northerly point of the section lie an ancient

[1] Sion Fort is on the top of a small conical hill ; it commands the passage from Bombay to the neighbo ring island of Salsette and was of importance while the Marathas possessed that Island. It was an outpost of British dominion in Western India for about hundred years.

DAVIES' SKETCH OF BOMBOY HARBOUR.

1626.



2. Mahim Fort 3 Warle Fort 4. 4. Mahim Bay and Creek
5. Byculla Flats 6 Navara Hill 7 Chandni Hill—"Queen of Marithas' castle"
8 Pir Point. 9. Thana Creek to Bassein.
10 (Devies C.) Trombay old Church, may have been a Hermitage.
11 Line of Persik Hills 12 Funnel Hill 13 Butcher's Island.
14 Elephanta Island (may have had a building on it; some ruins remain, but the sketch is exactly the same as the tower and tree on Butcher's Island).
15 Panwel River. 16. (M) Karanja Hill; ruins still exise.
17 Oyster Rock 18. Kolaba Point Prongs Reef. 19. Great Karanja.
20 Pen River. 21 Thal Knob. 22. (F) High land of Thal.
23 Kandari or Kenery Island. 24 Malabar Point.
25 Mahalakshmi and Breach Candy.

Koli settlement and the ruined fortress. Mahim, in addition to the features mentioned above, contains the ruins of two forts, Mahim and Riva, a Koli village, and the famous causeway, opened in 1845 and leading direct from the modern village of Mahim to Bandora.

The Harbour. *Early References.*

The earliest historical mention of Bombay Harbour is by Antonio Bocarro,[1] record-keeper under the Portuguese, who in 1634 gives the following description of it:—"Mombaim is a broader and deeper river than any in this State of His Majesty. It lies eight leagues to the south of Bassein and to the north of Chaul. This river is of salt water, through which many rivers and creeks from that region disembogue into the sea. There are no sand-banks, shoals nor shallows, except a rocky ridge which juts out from the land-point southwards, and extends half a league to the sea. It is all under rocks, and though slightly visible where it begins on land, it soon conceals itself under water and runs shallow for half a league, so that if a vessel fails to take heed is sure to run against it. This river of Mombaim is two leagues wide at the entrance, but soon narrows itself inwards, though not much. Coming from without across the bar one must steer north-eastwards, keeping clear on the seaside from the islet named Candil, (*i.e.* Colaba) and sail at the depth of eight fathoms through the middle of the canal. * * * * * * *. The Count Viceroy sent three Ministers[2] to fortify this bay in order to stop the incursions of the European foes. They, having observed and considered everything, found that the breadth of the port was so large and broader still in some parts inwards and clear (*limpo*) that there was no place for building a fort to defend the entrance." In 1639 Albert de Mandelslo alludes as follows to the harbour:—"Le g.e. Janvier nons passames avec un bon vent de Nord devant les

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[1] Livro das Plantas das Fortalezas, quoted by Da Cunha, Origin of Bombay, pages 169, 170.

[2] The Count Viceroy was Conde de Linhares, D. Miguel de Noronha, whose rule extended from October 22nd, 1629 to December 8th, 1635. The three ministers were Dom Fransisco de Moura, Captain of the city of Goa, Goncalo da Fonseca, Chancellor of the State of India, and Jose da Pereira, Superintendent of the General Estates of Goa.

to Grose in 1750 who remarked that "Bombay harbour is spacious enough to contain any number of ships. It has excellent anchoring ground, and by its circular position can afford them a land-locked shelter against any winds to which the mouth of it is exposed. It is also admirably situated for a centre of dominion and commerce, with respect to the Malabar Coast, the Gulf of Persia, the Red Sea, and the whole trade of that side of the Great Indian Peninsula and northern parts adjoining to it, to the Government of which Presidency they are very properly subordinated."[1]

Between 1766 and 1770 Forbes wrote that "The harbour is one of the finest in the world, accessible at all seasons and affording a safe anchorage during the tempestuous monsoons. The merchants carry on a trade with all principal sea-ports and interior cities of the Peninsula of India, and extend their commerce to the Persian and Arabian Gulfs, the Coast of Africa, Malacca, China and the Eastern Islands;"[2] and later in the same work he remarks that "Bombay harbour is large and secure from the storms and hurricanes which are very frequent and destructive at Surat bar and on the Malabar Coast."[3] Parsons, the traveller, in commenting upon the name of the island in 1775 avers that, "It was first called so by the Portuguese, literally in English 'Good Bay,' which it is in all respects being so very capacious as to be capable of receiving any number of ships of any size or draft of water with room sufficient to moor clear of each other in safety."[4] The capacity and security of the harbour have indeed impressed themselves upon

[1] Grose—Voyage, I. 29. The author of a Description of the Fort and Island of Bombay, published in 1724, wrote as follows:—"The haven of Bombay comprehends all the waters that enter between Colair (Bandora Point), on the west point of the island of Salsette and the two small islands of Hennery and Kennery, on the south, near the mainland." *See* Maclean's Guide to Bombay, 1900, page 2.

[2] Forbes' Oriental Memoirs, I, 21-22.

[3] Forbes' Oriental Memoirs, I, 151-152.

The Reverend Richard Cobbe in his account of the building of the Church of Bombay, published 1765, describes Bombay in that year as "the safest place of retreat and harbour, as being under His Majesty King George your (*i.e.*, the Company's) own *terra firma*."

[4] Parsons' Travels in Asia and America, 214-215.

the mind of travellers of all nations from the dim ages when Arab pirates and Chinese merchants anchored in the neighbourhood of the Silahara capital [1] up to the present day when it is visited by the ships of all nations. Mrs. Graham wrote her praises of it in the early years of the nineteenth century,[2] as also did Captain Basil Hall, R.N. (1812); and a few years later (1820), Captain John Seely recorded that "The harbour of Bombay, from its great size, smoothness of water, and for the greater part of the day having a fine sea-breeze blowing, affords almost constant opportunity for aquatic excursions. So open, indeed, and at the same time so secure is the bay that for miles, in various directions, the smallest boats may proceed with safety, and by means of the tide return at almost a fixed hour." [3]

The scenery of the harbour has appealed quite as forcibly to travellers as its commercial value has to residents. "The harbour scenery of Bombay," wrote Mrs. Postans in 1838, "is justly considered the most lovely in the world. The deep smooth waters, the bright blue cloudless sky, the clustering islands fringed with the dark feathers of the palm-trees, which seem so jealously to conceal the line where the fair elements unite; the pale purple Ghats, towering higher and higher in piles of varied form, their lofty summits dim in the misty distance, form a picture which fascinates the eye and spell-binds the imagination as completely as it baffles the power of language to portray." [4] A very similar eulogy was

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1 See History Chapter (Hindu period).

2 Journal of a residence in India by Maria Graham, Second Edition, 1813.

Fragments of Voyages and Travels by Captain Basil Hall, R.N., 1832. Speaking of Bombay in 1812 (Vol. III, p. 7), he writes:—"The harbour unites every possible desideratum of a great seaport: it is easy of access and egress; affords excellent anchoring ground; is capacious beyond the utmost probable demands of commerce; and, owing to the great rise and fall of tides, is admirably adapted for docks of every description."

3 The wonders of Elora by John B. Seely, Captain in the Bombay Native Infantry. Second Edition, 1825.

4 Mrs. Postans' Western India in 1838, page 4.

The anonymous author of "Life in Bombay" speaks of the Harbour in 1852 in the following terms:—"Beautiful indeed it is, studded with numerous small islands and comprising in a single *coup d'œil* every variety of landscape scenery, from the fertile Elephanta covered with the rich vegetation of the tropics and

penned by Lady Falkland in 1857,[1] and by J. M. Maclean in 1875;[2] while a modern French traveller, M. Grandidier, has remarked that "La rade de Bombay est une des plus belles et des plus sûres de l 'Inde. L'aspect en est fort pittoresque, et il est peu de ports qu'on puisse lui comparer. A l'arriére-plan, les montagnes du continent avec leurs sommets découpés se détachent sur l'azur du ciel, tandis qu 'a leurs pieds les collines et les îles, chargées durant les monsoons d'une verdure luxuriante, forment un tableau des plus ravissants".[3]

The port is about twenty-one miles long and from four to six miles wide with general depths of $3\frac{1}{2}$ to 6 fathoms, the bottom generally consisting of mud. It contains several islands, rocks and shoals, and its shores are indented by numerous bays and inlets. The limits of the Port are as follows:—south, Kenery Island to the opposite point of the mainland; west, Kenery Island to the floating light and thence to Malabar Point; north, Hog Island to Trombay village, and from the south-west point of Trombay Island to Sewri Fort; east, Nocar Point across the entrance of the Amba river to the entrance south of Karanja Island and from the northern point of Karanja Island to the north-west point of Hog Island. The direction and management of the port, pilotage and docks, under the control of the Trustees of the Port, are vested in the Port Officer, under whom serve dock masters, a harbour master, two master pilots and 15 licensed pilots. *Port Limits, 1906-07.*

sparkling like an emerald on the bosom of the waters, to the barren shores of Caranjah, with its rocky headlands projecting boldly as if in defiance of the softer beauties which surround it. From a commercial point of view the advantages offered by the situation and almost unequalled harbour of Bombay are too manifest and too generally known to require repetition. Easy of access at every season of the year and affording a safe anchoring ground for the largest of ships, the haven is at all times thronged by an almost indescribable variety of vessels, descending through every gradation from the stately London-built East Indiaman to the primitive native canoe."

[1] Lady Falkland's Chow Chow Vol. 1, page 47, 1857.

[2] Maclean's Guide to Bombay, 1900, pages 194-5.

[3] Le Tour du Monde, Vol. XX, page 122, quoted by DaCunha, Origin of Bombay, page 1. An earlier French Traveller, M. Fontanier (Voyage daus l'Inde, 1835) said:—"Je connais Constantinople et Naples, et j'hesiterais à dire que ces villes célébres et leurs environs offrent au moment du lever du soleil un plus beau coup d'œil que le port de Bombay, ou des sommets de Mazegam ou de Bridge-Candy."

eks and rs. The two chief creeks, running inland from the harbour, are the Dharamtar and Thana creeks. The former, at the head of which is the Amba river, extends from Kansa (Gull) islet eastward for 3½ miles and affords good anchorage for small vessels at its mouth. The latter, opening into the northern part of the harbour, runs for 10 miles from the village of Trombay to Thana town, and has a width of 1½ miles, which gradually narrows as Thana is approached. The creek is lined by mud banks and mangrove swamps and contains two small islets, one being five miles from Bombay and the other about two miles south of Thana. The Amba river runs twenty-one miles to Nagothna, Kolaba District; while the Panvel river, which debouches into the harbour immediately north of Hog Island, extends ten miles to Panvel town in that district and is navigable by small vessels for five miles from the entrance.

ds. The harbour is studded from south to north with the following islands :—Kansa or Gull islet, which lies at the entrance of the Dharamtar Creek; Karanja Island, which consists of two hills (one 991 ft. and the other 696 ft. high) and an intervening valley; Cross or Gibbet Island, 64 ft. high, which is situated nearly opposite the Victoria Dock, on the eastern side of a reef of rocks, with shoals extending north and south of it; Butcher's Island, 68 ft. high and half a mile long by half a mile broad, which is situated 3 miles north-east of Cross Island and contains barracks, store-houses and a cemetery; Elephanta Island, which lies one mile east of Butcher's Island and consists of two hills (the eastern 553 ft. and the western 300 ft. high); and Hog Island, which lies three-quarters of a mile east of Elephanta, on the south side of the entrance to the Panvel river. The northern end of the harbour is filled by Trombay Island with the small mosque of Pir Pav on its southern extremity, from which the land rises into a hill 995 feet in height. Outside the harbour, but within port limits, lie the islands of Henery and Kenery. [1]

[1] West Coast of Hindustan Pilot, 1898. A full description of Henery, Kenery, Elephanta and Trombay Islands is given in the Bombay Gazetteer, Vol. XIV (Thana).

Rocks, Reefs and Shoals.

Among the reefs of the harbour may be noticed the Karanja reef which extends two miles west of Karanja Island; the Colaba reef, opposite the Victoria Bandar; the Cross Island reef, which lies immediately north of the South Channel beacon, nearly opposite the Victoria Terminus of the Great Indian Peninsula Railway; and the Butcher Big reef which is separated from Butcher's Island by a narrow channel. The chief shoals are the Colaba shoal, extending from opposite the Prongs reef for three miles along the east side of Colaba; the Middle Ground shoal, which lies north-east of the Dolphin Rock and two miles from the Sunk Rock, and has near its centre a rocky islet, about 40 ft. high, surmounted by a battery; the Flagstaff shoal which lies nearly opposite the Custom-House and north-west of the Middle Ground shoal [1]; and the Elephanta spit, a shoal of mud running in a north-easterly direction from the north end of Elephanta Island.

The chief rocks are the Sunk Rock, on which a light-house stands, situated a little to the south-east of Colaba point and divided by a narrow channel from the Colaba shoal; Oyster Rock, a flat rock about 70 ft. high, surmounted by a battery, lying nearly opposite to Pilot Bandar about half a mile from the shore; Nigger's Head rock, lying south-west of Oyster Rock and covered by one foot of water; the Dolphin Rock, a small rocky shoal carrying a light-house, partly visible at low water and lying 1½ miles north-east of the Sunk Rock; the Apollo Spit or Falkland Rock, situated half a mile north-west of the Middle Ground shoal; the North Patch, lying nearly a mile north-west of the Middle Ground shoal; the Elephanta Rock, lying just off the southern extremity of that island; the Barnacle Rock, which lies on the west side of the channel dividing Elephanta and Hog Islands and is marked by a black pillar 30 feet

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[1] James Douglas (Bombay and Western India, p. 266) gives the following list of native names for these islands:—Divadiva (Butcher's Island); Chinal Tekri (Cross Island); Gharapuri (Elephanta); Chaul Kavai (Gull Island); Nava Siva (Hog Island); Oondari (Henery Island); Khandari (Kenery Island).

The Flagstaff Shoal will be removed when the new Dock works are sufficiently advanced.

high; and the Malet Shelf, a rocky patch close to the foreshore on the north of Prince's Dock.

Fishing stakes.

A large group of fishing-stakes, used by the Kolis, lies to the north and east of the Thal Shoal (6 miles north of Kenery Island) in $5\frac{1}{4}$ fathoms at low water springs.[1] Another group extends from the north end of Oyster Rock for nearly half a mile in a south-easterly direction; and three groups are situated between Cross Island and Mazagon. Within certain limits no fishing stakes are allowed in the approaches to the harbour, and except for the first group mentioned above the anchorage within port limits is kept free from them.

Channel and Anchorage.

The principal channel into the port lies between the Prongs Reef and the Thal Shoal, and is about $2\frac{1}{2}$ miles wide. The usual anchorage[2] is on the west side of the harbour abreast of the city, subject to the following limitations. Vessels arriving without a pilot lie to eastward of the Sunk Rock light; vessels of war lie between Bombay Castle and Sunk Rock light; vessels arriving with or taking in gunpowder lie a mile to the south-east of the Middle Ground Shoal, while those carrying more highly explosive materials lie $1\frac{1}{2}$ miles south-east of the Sunk Rock light; vessels intended for the wet docks anchor near the dock channel, while a space is reserved off the Yacht Club as an anchorage for yachts and small passsenger-boats. A special area is set apart for vessels in quarantine. A pilot schooner cruises between the floating lightship and Kenery Island and in very rough weather between the Sunk Rock and the floating light.

Tides.

It is high water full and change at the Apollo Bandar at 11h. 35m.[3] The spring tides in the harbour rise $14\frac{1}{2}$ ft., except on extraordinary occasions when the rise is

[1] They lie about half way between the Thal Shoal and a buoy moored westward of the Karanja Shoal, and are removed during the monsoon. West Coast of Hindustan Pilot.

[2] Mrs. Graham (1813) writes. "The anchoring ground is between Butcher's Island and Bombay Fort; but there is a fine bay above Elephanta where the Portuguese used to lay up their fleet during the monsoon and which is nearly land-locked."

[3] It is high water at the Bombay floating light at 0h. 20m.; at the Prongs light-house at noon; at Mazagon at 11h. 30m.; at the North Karanja buoy and all along the Eastern shore at 0h. 30m. The tide coming out of Amba river is met at Nocar Point, where it is high-water full and change at 0h. 25m.

as much as 18ft., while the neap tides rise 11¼ft. In the entrance of the port, the tide does not set fairly through the channel, but the flood-stream sweeps across the end of the Thal Shoal towards the opening leading past Gull island to the Amba river. During the south-west monsoon the ebb tide sets strongly out of the Amba river in a westerly direction, which greatly assists sailing vessels leaving the harbour. The tides are subject to a large diurnal inequality which may either accelerate or retard the times of high and low water; while from September to March the night tides are higher than the day tides, and *vice versa* from March to September, the difference being greatest during June and July.[1]

Docks, Wharves and Basins.

Commencing from the southern extremity of the island the following are the chief docks and wharves lining the eastern foreshore as far as Sewri :—The Pilot Bandar, where a life-boat was once kept; the Sassoon Dock, now rarely used except for landing and embarking troops and stores; the Victoria and Gun Carriage Bandars; the Jamsetji Bandar, nearly opposite the Dolphin Rock; the Arthur Bandar (named after Governor Sir George Arthur), of which the head marks the north-east extremity of Colaba; and the Apollo Bandar, which is used as the place of arrival and departure of distinguished visitors. North of the Apollo Bandar, near the Fort, lie the Government Graving Docks, divided into lower, middle and upper Bombay, lower and upper Duncan and new torpedo docks[2];

The time adopted in Bombay since 1st January 1906 has been the Standard Time of the meridian of 82½°E. or 5 hours 30 minutes fast on Greenwich Mean Time. A time ball is dropped by electricity from the Colaba Observatory and from the clock-tower of the Prince's and Victoria Docks at 20h. 30m., Standard Time, corresponding to 15h. Greenwich Mean Time. If the ball fails to drop correctly a flag is hoisted at once, and the ball dropped again at 21h. 30m. S. T. (=16h. G. M. T.).

[1] For further information see West Coast of Hindustan Pilot, 1898.

[2] A new basin was opened in the Government Docks in 1894 with an area of 4¾ acres and 1,500 feet of berthage, the longest quay being 486 feet. The total length of the Government docks is 1,419 feet. The R. I. M. dockyard has a well-stocked factory for the repair of engines and boilers and the casting of cylinders, while the Peninsular and Oriental Company and several private firms undertake repairs to the hulls, engines and boilers of vessels.

next to the Dockyard is the Town or Customs Bandar, the oldest quay in Bombay; and just beyond the Mint is the Ballard Pier, used for the arrival and departure of passengers by the weekly mail steamers and for the shipping and landing of their baggage. The Ballard Pier, near which lies the Petroleum wharf, marks the southern limit of the New Docks, comprising the whole of Mody Bay, and planned to extend as far as the old Mody Bandar and Carnac Basin, which lie immediately south of the Victoria Dock and Prince's Dock.[1] The Merewether Dry Dock is situated in the north-west corner of the Prince's Dock, and is succeeded by the Malet Bandar where goods are landed from native craft and by the Wadi Bandar, whence goods are delivered direct to the Great Indian Peninsula Railway, and which is flanked on either side by the Clerk and Frere basins; and thence one reaches the British India Company's Docks, divided into lower and upper Mughal, but actually forming one dock with a total length of 413 feet, the Viegas Patent Slip, and the Peninsular and Oriental Company's docks, which are situated immediately to the south of the Kasara basin, Mazagon. The Peninsular and Oriental Company's docks comprise the old or Mazagon Dock, now suited only to lighters and small craft, and the Ritchie Dock, and have a total length of 649 feet. Beyond the Kasara basin lie Powder Works Bandar used for the landing of kerosine oil and at part of which old ships are broken up, the new reclamation wharves styled the Lakdi Bandar, where timber and building stone are landed, the Tank Bandar, used solely for landing coal, and the timber ponds which are shortly to be removed. North of these are the Frere Land Bandar, Ismail Habib Bandar, and the Sewri Bandar, all of which will eventually be absorbed in the Sewri reclamation scheme. At Chaupati in Back Bay and at Varli native trading vessels are accustomed to discharge cargoes of wood, tiles, lime, fish, bricks, bamboos and pottery during the fair weather. The Bandar at Sion is used for the shipping of dried fish,

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[1] For a full description of the New, Prince's, Victoria and Sassoon Docks, see *infra* Places and Objects of Interest.

firewood, etc., and the Mahim Bandar partly for the same purposes.

Pilotage and Signalling.

Pilotage is compulsory for all vessels of 200 tons and upwards other than those belonging to Government. The pilot schooner cruises in the vicinity of the floating light during the south-west monsoon and usually lies at anchor during the fair season.[1] All vessels approaching Bombay are first signalled from the signal station on the Prongs Lighthouse, the signal being repeated by the signal station on the tower of the Port Trust Offices and again by the flag-staff at Prince's Dock. There is telephonic communication between all these stations. Kenery Island also has a flag-staff and a set of signalling flags. In case of urgent necessity vessels can thus communicate through the light-keeper on the Island, who is in telegraphic communication with the main-land. The port is equipped with a powerful vessel for lifting buoys and moorings, a steam tug, and a water boat, all of which are fitted with fire-extinguishing appliances. No life-boat has been maintained since 1895.

Light-houses.

No record exists of any guide to shipping being erected on the island during the epoch of Portuguese dominion; and for about a century after the cession of Bombay to the English the only land-marks for vessels entering the harbour were the tombs at Mendham's Point which, in Fryer's words, made "a pretty show at entering the haven,"[2] a few tombs at Colaba,[3] and a house on Mazagon hill known as the Mark House.[4] This house was kept regularly white-washed during the early years of the eighteenth century, and was in 1758 let to

[1] For information as to the direction in which vessels should steer when entering or leaving the harbour see the Official Sailing Directory.

[2] Fryer's New Account of East India and Persia.

[3] Grose (Voyage to the East Indies), speaking of Old Woman's Island in 1750, remarks that "Near the middle of this Island are three tombs, kept constantly white, as land-marks into the harbour. From the end of the Island shoots forth a dangerous ledge of rocks, which require a good berth to clear them."

[4] Bombay Town and Island Materials, Part II, 530. Prior to the lease to Mr. Byfield the house had been "plundered of all the timber and plank by its late supposed proprietors, who damaged a great part of the walls to get at the timber and thereby brought the house to a very ruinous condition."

Mr. Thomas Byfield by Government for his residence on a ninety-nine years' lease and at an aunual rental fixed by the Mhataras and vereadores of the island. A condition of the lease was that Mr. Byfield should white-wash the front of the house once a year "to continue a mark to the shipping coming in or going out of the harbour."[1]

Colaba Lighthouse, 1768.

In or about the year 1766 two Signal Houses were established, one on Old Woman's Island (Colaba) and the other at Malabar Point[2] ; and these were followed two years later by the building of the Colaba Lighthouse, when in response to a representation from the Superintendent of Marine, the Bombay Government determined "to erect a Lighthouse upon the point of Old Woman's Island.[3] This lighthouse probably superseded the Signal-house of 1766 and is traditionally stated to have been erected on a natural mound over the ruins of an ancient Portuguese watch-tower.[4] It was completed at a cost of between Rs. 4,000 and Rs. 5,000, and was working by the middle of 1771, the expense of maintenance and of lighting being recouped by a duty imposed on all ships and vessels anchoring in the harbour.[5]

1797.

In 1797 the Court of Directors, not being satisfied with the light, despatched a new frame with a complete set of reflectors and lamps from England,[6] in consequence of which the Bombay Government had to

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[1] Edwardes' *Rise of Bombay*, 190-191. Bombay Town and Island Materials, Part II, 530.

[2] Bombay Town and Island Materials, Part II, 531.

[3] Bombay Town and Island Materials, Part II, 204.

[4] DaCunha. Origin of Bombay, pages 60, 303 and 336.

[5] Bombay Town and Island Materials, Part II, 204. At first it was only lighted at particular seasons: but on the 7th February, 1772, Government ordered "a proper light to be kept up during every night throughout the year." The cost of lighting for the twelve months ending July 31st, 1772, amounted to Rs. 629-3-12: and the duty imposed upon vessels was Rs. 2 for every hundred tons. In 1780 the duty was raised from Rs. 4 to Rs. 10 per 100 tons.

[6] Bombay Town and Island Materials, Part II, 531. The Court of Directors wrote:—"Being of opinion that some improvement might be made in the lighthouse at Bombay, we obtained permission for Captain Tasker, our late master attendant at your Presidency, to inspect the plans of the lights exhibited on the lighthouses in this country. Captain Tasker having stated to us that upon inspection of the reflectors used at various lighthouses on the coast of this kingdom under the immediate orders of the Trinity Board, in order to form an opinion of their use and application for the lighthouse at Bombay, he does not hesitate to pronounce them for the best in princi-

build a new lantern to accommodate them at a cost of Rs. 6,653-3-5. These improvements were practically completed in 1799, a lightning-conductor and new glasses and wicks being obtained from England in 1800.[1]

Various writers of the nineteenth century have referred to the Colaba Lighthouse, the earliest being Milburn, who in 1808 spoke of it as situated near the southern extre- 1808
mity of Old Woman's Island, and as being of circular form with a flight of steps within it. It was 150 feet in height above sea level and was visible for seven leagues at sea in clear weather. Attached to it was a signal station where a regular watch was kept by day and night, and the cost of which was defrayed by a rate levied on all vessels.[2] Mrs. Graham mentioned it in 1813 as "a hand- 1813
some building on a point of land running south-west from the Island called Colaba or Old Woman's Island,"[3] while in 1827 the Abbe Cottineau de Kloguen wrote :— 1827
"J'ai été me promener avec le Père Augustin à l'île de Culaba qui n'est séparé de celle de Bombay que dans la marée haute, et alors on y passe en bateau. C'est sur cette île, que l'on appelle aussi l' Ile de la vieille femme, qu'est la tour d'eau ou le fanal â son extremitè meridionale."[4] Mrs. Elwood described it in 1830 as "the first 1830

ple he ever saw and extremely well calculated for the Bombay lighthouse. We have therefore ordered a frame with a complete set of reflectors and lamps to be shipped on the Belvedere. At the suggestion of Captain Tasker we now desire that the lanterns at present in the lighthouse be so altered that the reflectors occupy the space from north-north-west by west and south to east-south-east or twenty points, and that the space from east-south-east to north-north-west occupying these points be glazed. We send numbers in the packet of instructions for fixing the iron work for the lamps and reflectors, also instructions for trimming the lamps, and a few copies of the rules ordered to be observed at the lighthouses under the management of the corporation of Trinity House. The reflectors being very apt to become dim from the smoke of the lamps we direct that transparent cocoa-nut oil only be burnt in the lighthouse at Bombay, as the jingely (*i.e.*, gingelly) and other oils in general use are very productive of lamp black and consequently very unfit for this use."

[1] Bombay Town and Island Materials, Vol. XXVI, Part II, 531, 532. From this date (1800) stores and articles for the lighthouse were included in the periodical marine indents sent from Bombay to the Court of Directors.

[2] Milburn's Oriental Commerce, 1813, I, 170.

[3] Maria Graham. Journal of a Residence n India. 1813.

[4] Edwardes. Rise of Bombay, 249.

object which greets the voyager on the Indian Ocean"; 1832 Von Orlich mentions it in 1832[1]; while the issue of the *Bombay Times* for June 26th, 1841, speaks of its light dues being levied for the first time on vessels from China in the year 1840-41.[2] Sir Bartle Frere spoke of it in 1867 as the first lighthouse in British India, adding that in earlier days it shared with the Mint, the Dockyard and the Town Hall the honour of being one of the great sights of Bombay.[3]

Prongs Lighthouse. Apparently by 1841 the Colaba Lighthouse was not considered sufficient of itself to guide approaching vessels into the harbour, and suggestions were made in the *Bombay Times* for the construction of a lighthouse on the Prongs. No steps to this end were however taken until 1865 when Government decided to defray the cost of this work from Imperial funds. Divers opinions were expressed as to the proper position for the lighthouse, a site 1⅝ miles S.-W. by S. of the Colaba Lighthouse being eventually chosen; and in 1870 Government commenced the erection of the lighthouse at an estimated 1871 cost of nearly six lakhs. By November 1871 the tower had been raised to a height of 114 feet above the foundations, and the lantern was received at the beginning of 1872.[4] The whole work was completed by 1875 and was thus described by Maclean in that year: 1875. "The Prongs Lighthouse is 1⅕ sea miles S. W. by S. of the Colaba Lighthouse and stands in lat. 18°52′ N.; long. 72°47′ E.; (in time) 4h. 51m. E. From high-water to centre of light it is 136′ 8″, and from foundation to top of ventilator 168′ 2″. It can be seen 18 sea miles by an observer, 18 feet above the water. The shaft or column,

[1] Mrs. Elwood's Narrative of an Overland Journey to India, 1830 Von Orlich's Travels in India, 1845.

[2] The rate was Rs. 15 per 100 tons. In 1841 native craft of from 10 to 20 tons paid Rs. 2, those of 20 tons and upwards paid at the rate of Rs. 15 per 100 tons.

[3] Report of the Administration of the Bombay Harbour and Pilotage Board (1873). The light-house was properly equipped with light apparatus in 1844. The light-house was eventually taken over by the military authorities and is now known as the Colaba signalling station.

[4] General Administration Report of the Bombay Presidency, 1871-72. The first apparatus sent out from England for the Prongs Lighthouse was lost in a gale in November 1871.

which is made of solid ashlar, stands on a concrete base. It is painted in bands of black, white, red and white alternately, the black being at the bottom to enable the tower to be seen more distinctly in the monsoon or early morning when there is often a heavy fog on the water. The lighthouse is intended to guard the Prongs Reef, near the extremity of which, where it dries at low water, it is built. There is foul ground all round for at least 1¼ sea miles beyond the lighthouse. There are eight rooms in the lighthouse consisting of a store-room and living rooms. The regular staff consists of five natives and one European. The apparatus is a holophotal dioptric, first order, 10 second flashing white light. It is composed entirely of glass and has eight sides, the whole revolving once in 80 seconds, so as to show a bright flash every ten seconds. The lantern is entirely composed of copper and gun metal, and is glazed with triangular patterns of plate glass. The sides of the tower are hyperbolic curves. It is one of the largest lighthouses in the world, there being 51,000 cubic feet ashlar and over 63,000 cubic feet concrete in it. The whole lighthouse is estimated to weigh 10,000 tons. It cost £60,000 sterling.[1]"

In order to facilitate entry into the harbour by night, *Lightships.* it was decided in 1842 to place a floating light outside the port. The *Colaba* was built for this purpose and was stationed about 2 miles from the extremity of the south-west Prong in that year. She commenced to exhibit a twenty-second revolving red light on the 1st May 1868, but was unfortunately wrecked on the 15th June in that year by the transport *Humber* and nearly sank altogether. After repair she remained in the same place until 1872, when the *Bombay*, built in the Bombay Dockyard, took her place[2]; and the *Colaba* was then moored close to the south of the Sunk Rock as inner light-vessel, thus

[1] J. M. Maclean's Guide to Bombay, 1900.

[2] In 1905 the *Bombay* was replaced by a modern light vessel built by Pintch's Patent Lighting Company and lit by their patent gas. The vessel has no crew, and the light is fed by a couple of cylinders fitted in her hold and is capable of burning for four months at a time. The light is a flashing white light, showing 10.5 seconds light and 4.5 seconds eclipse.

taking the place of the *Shannon*, which was built in 1832 as a brig-of-war but was eventually converted and used as the inner lightship from 1843 to 1872. The original purpose of the *Colaba*, namely the guarding of the Sunk Rock, is now performed by a circular masonry tower, built in 1884 on the rock itself, with an occulting light visible for 14 miles in clear weather. In 1856 a light-house, or more correctly a beacon, was erected upon the Dolphin Rock to guard the reef of the same name. Its original design was described as crude and inconvenient; and when light-apparatus was first introduced into it, it displayed a green light to southward and eastward, a bright light to northward, and eclipse to westward. Since 1897 this arrangement has been altered to a green and white light visible for 5 miles, the white light indicating the anchorage for the English mail steamers at night.

Sunk Rock Light-house.

Dolphin Rock Light-house.

Beacons and Buoys.

The harbour contains altogether 16 beacons, situated at different points. A white beacon, 60 feet high, crowns the summit of Thal Knob (183 feet), which lies three-quarters of a mile to eastward of the south entrance of the harbour, while a second, eighty feet high and painted black, stands on the northern hummock of Ashuerra Hill (922 feet), which rises about 3½ miles south-east of Thal Knob. On the north-west point of the Karanja Reef, which extends two miles westward of Karanja Island, is a red beacon, thirty-six above low-water, and at the northern and southern extremities of the Colaba Reef, which lies opposite to Victoria Bandar, are beacons painted in red and black stripes. A red stone beacon, thirteen feet above high-water, marks the Cross Island Reef, and another, the South Channel Beacon, showing bands of black and red, rises 36 feet above the shoal to the south-west of that island.[1] The North Channel beacon lies opposite the Victoria Dock. A black stone beacon surmounts a dangerous rock to the south of Butcher's Island, and the Shewa Beacon, a red masonry pillar with a pole and ball, 46 feet above low water, marks the eastern side of the channel,

[1] The South Channel Beacon has (1907) been temporarily removed in connection with the new dock-works.

dividing Elephanta from Hog Island. The Malet Shelf, which lies northward of the Prince's Dock, carries a beacon surmounted by an iron drum, 28½ feet above low water. Other beacons are:—The Tucker beacon of black and red stone on the south-west of Butcher's Island, 34 feet above mean sea-level; the Tucker New beacon, a black iron skeleton, surmounted by a cone, 26 feet above mean sea-level; the Uran beacon, of red stone, on a reef south of Butcher's Island beacon and 26 feet above mean sea-level; the Barnacle beacon of black stone on Barnacle rock in the channel between Hog Island and Elephanta Island, 19 feet above mean sea-level; and the Kenery Reef beacon of black stone on the east of Kenery Island, 27 feet above mean sea-level.

An extra guide to mariners is afforded by a considerable number of buoys, of which the chief are two red buoys at the western and north-western points of the Karanja Reef, a black and white horizontal striped spherical buoy moored near the extremity of the Middle Ground Shoal, and a black can buoy near the south-east end of the Flagstaff Shoal. Two black can buoys lie east of the Cross Island Reef. The big reef of Butcher's Island is demarcated by two red buoys; a black and white horizontal striped spherical buoy guards the end of the Elephanta spit; while several white buoys mark the anchorage for war-vessels between the Castle and the Sunk Rock. Two white Government mooring buoys lie in line on the north side of Hog Island; and a light-boat and buoys mark the area set apart as fields for mine-practice.

Kenery Light-house.

The Kenery (Khanderi) light-house, the foundation stone of which was laid by Sir Bartle Frere on the 19th January, 1867, is the other chief guide to vessels entering Bombay harbour, and is fully described in volume XI of the *Bombay Gazetteer*.[1] The present light, which was

[1] The erection of the Kenery Light-house formed part of a general scheme for the lighting of Bombay harbour, formulated by Admiral Sullivan, Hydrographer to the Admiralty, in 1863, in consequence of the frequency of shipwrecks on the coast south of Bombay. A beacon had been erected on Kenery Island in 1852, which, by reason of its similarity in appearance to Colaba Light-

exhibited for the first time in 1902, shows two flashes every ten seconds in the following manner :—flash $\frac{1}{4}$ second, eclipse $2\frac{1}{2}$ seconds, flash $\frac{1}{4}$ second, eclipse 7 seconds. The height of the light is $154\frac{1}{2}$ feet above high water, and the light is visible for $18\frac{1}{2}$ miles in clear weather. It shows red over the Chaul Kadu Reef. At the present time (1909) the harbour is furnished with one unattended light-ship, situated $4\frac{3}{4}$ miles S. 21.° W. of the old Colaba Light-house, a lighted beacon in the North Channel, four light-houses situated on the Prongs Reef, the Sunk Rock, the Dolphin Rock and Kenery Island and various other lights, including one on Trombay Island, all of which are described in detail in Appendix III at the end of the chapter.

Wrecks.

Since the completion of the Kenery and Prongs light-houses, no wreck has occurred : but during the forty-six years ending 1872 fifty wrecks took place in or near the entrance of Bombay harbour. Of these, eleven occurred off Alibag, nine round Kenery Island, nine on the Prongs Reef, eighteen in the harbour, one off Breach Candy, one off Vesava (Salsette) and one off Manori. Appendix IV at the end of this chapter gives the details.

Reclamations.

No work has so greatly contributed to rendering Bombay healthy and habitable as the reclamation of land from the sea. The idea of reclaiming submerged ground dates from a very early period ; for in the middle of the sixteenth century the Portuguese financier Simâo Botelho advised the king to substitute for the grant of villages to deserving individuals the allotment in perpetuity of submerged lands, to those who drained and reclaimed them, while after the transfer of the island from the Crown to the East India Company, the Court of Directors ordered their representatives at Bombay to encourage speculators to stop the breaches where the sea over-

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house or in consequence of the fact of its erection not having been published sufficiently early, was said to have caused two wrecks. It was therefore destroyed soon after its erection ; and when the work of constructing the Kenery Light-house was commenced on the 27th October 1866, the chief object of Government was to render its appearance as different as possible from that of the Colaba Light-house. (Mr. Robertson's speech in the Report of the Administration of the Bombay Harbour and Pilotage Board, 1873.)

flowed the island, by allowing them to hold the land they recovered for a term of years, free of rent, reserving only a small quit-rent for the Honourable Company[1]. Nevertheless, with the exception of small patches of reclamation here and there, no serious attempt to check the inroads of the sea was made for about a century after Bombay became a British possession. The first work of magnitude designed to meet this object was the construction of the Vellard between Mahalakshmi and Varli during the governorship of Mr. William Hornby. Grose, who visited the island in 1772, points out that prior to the building of the Vellard "the sea had so gained upon the land with its irruption that it almost divided the island in two and made the roads impassable."[2] No sooner was the Vellard completed than the central portions of the island and the Flats became available for the reclamation which was gradually carried out during the nineteenth century.[3] As early as 1836-37 a reclamation company appears to have been in existence[4], while in 1844 the *Bombay Times*, commenting upon the erection of Grant's Buildings and the construction of Arthur Bandar, remarked that land was about to be reclaimed "between the Cooperage and the Colaba embankment on the Bombay side of the Vellard" (Colonel Jervis' Break-water), and that "the space would long ago have been reclaimed but for the enforcement of the regulation, now likely to fall into abeyance, by which no permanent structures were permitted to be erected within 800 yards of the ramparts."[5] The report of the Railway Committee in the same year mentioned a proposal to reclaim between Wadi Bandar and Chinch Bandar a portion of sea-beach measuring 1,800 feet and 300 feet wide; while various tracts of land in the interior of the island had been raised in level and rendered more or less fit for habitation by 1855.[6]

[1] Warden's Report.

[2] Grose's Voyage to the East Indies.

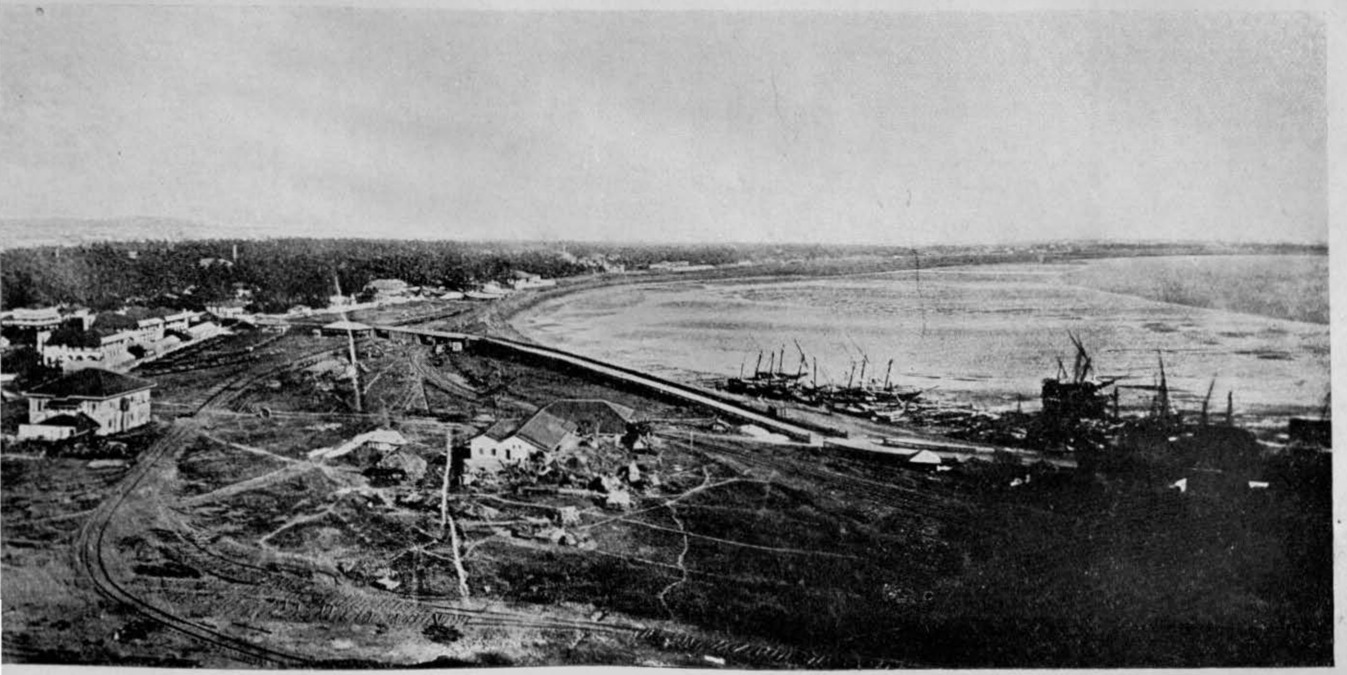
[3] Bombay Courier, 16-3-1816.

[4] Bombay Times, 6-2-1839.

[5] Bombay Times, 24-7-1844.

[6] Bombay Quarterly Review, 1855, p. 176.

Prior to 1860, however, little had been done to reclaim the foreshore. "A traveller landing at Apollo Bandar thirty years ago" wrote Maclean in 1875, "would (with the single exception of a few thousand feet of frontage at the Dockyard, Custom House and Castle) have found a foul and hideous foreshore from the Fort to Sewri on the east, from Apollo Bandar round Colaba and Back Bay to the west. All round the Island of Bombay was one foul cesspool, sewers discharging on the sands, rocks used only for the purposes of nature. To ride home to Malabar Hill along the sands of Back Bay was to encounter sights and odours too horrible to describe, to leap four sewers whose gaping mouths discharged deep black streams across your path, to be impeded as you neared Chaupati by boats and nets and stacks of firewood, and to be choked by the fumes from the open burning ghat and many an "ancient and fishlike smell." To travel by rail from Bori Bandar to Byculla or to go into Mody Bay was to see in the foreshore the latrine of the whole population of the native town." These conditions were remedied for ever by the great reclamations carried out subsequent to the cotton mania and general commercial delirium of 1861-65. The outbreak and continuance of the American war till 1865 gave Bombay the capital requisite for regulating and advancing below low-water mark the whole of the island's foreshore. Companies sprang into existence which together with Government were ultimately responsible for the Apollo Bandar, Mody Bay, Elphinstone, Mazagon, Tank Bandar and Frere Reclamations on the east of the island and the Back Bay reclamation from Colaba to the foot of Malabar Hill on the west. The Mody Bay reclamation, extending from Carnac Bridge to the Mint, had been commenced by Government several years previously in order to obtain a good site for the commissariat stores and offices, but was never used for that purpose; and by 1865-66 one of the reclamation companies of this epoch had taken over the site, improved and enlarged it and provided the land required for the terminal station of the G. I. P. Railway. The total area reclaimed amounted to 84 acres and cost about 30 lakhs. In 1858 the Elphinstone Company com-



RECLAMATION AT CHAUPATI, 1864.

menced operations by reclaiming about 22 acres of sea-ground and building godowns for merchandise and a cotton press. In 1862 the Company enlarged its scheme and between that date and 1871 it deposited 7 million cubic yards of material and laid out a land and dock estate. The land estate contained more than 100 acres of building plots, 9 miles of roads and 10 miles of drains; while the dock estate comprised 71 acres of wharf and sites for sheds and godowns, 10 acres of metalled wharf, 6 acres of sheds, 2 miles of permanent wharf-wall forming two basins, and a landing-place. The whole area operated upon by the Elphinstone Company was 386 acres, comprising 276 acres of land, 65 acres of basin, and 45 acres of old bandars absorbed into the scheme.

Meanwhile work had been proceeding at the Apollo Bandar. The extent of the reclamation originally undertaken was 20 acres, to which was subsequently added 11 acres required by the B. B. and C. I. Railway Company. By 1868-69 the scheme had been completed at a cost of about $14\frac{1}{3}$ lakhs and comprised among other things a large basin 700 feet in length which has since been filled up to permit of the erection of the great buildings which now characterize the area. The Back Bay Reclamation Company eclipsed the other companies of this epoch in the magnitude of their project, which contemplated the entire reclamation of Back Bay; but their original design was frustrated by the collapse of the share mania in 1865. The Company was forced like most of the others to go into liquidation, and Government, who made themselves responsible for the completion of the work begun by the Company, confined themselves to reclaiming just so much land as would suffice for a ride and footpath along the sea-shore, for the B. B. & C. I. Railway Company's line, and for a metalled road (the Queen's road) which now represents roughly the original line of the foreshore. Reclamation of land within the island was also a feature of the years succeeding 1861. The demolition of the ramparts enabled Government to fill up the old ditches and hollows on the Esplanade, while the Municipality took in hand the partial reclamation of the Flats with town-

sweepings. The whole of the ground which is now intersected by Clerk road to Mahalakshmi was in 1850 a dismal swamp for the greater part of the year. Across this the Municipality constructed the existing main thoroughfares and, where drainage was difficult or impossible, raised the land to the level of the new roads. This resulted in a very considerable rise in the price of land in this locality and in a sudden impetus being given to the building of the mills and the workmen's chals which now cover most of the area from Tardeo to Parel. The Municipality also did much from 1866 onwards towards the provision of new land, by filling up old tanks and quarries. Among these were a tank at Upper Colaba near Pilot Bandar, filled in 1866, a large quarry at Chinch Bandar road, filled in 1880, four Foras tanks near the DeLisle and Arthur roads filled in 1884, the Sankli tank at Haines road filled in 1893, a quarry near the Umarkhadi Jail filled in 1894, the Gilder street tank filled in 1905, and the Matharpakhadi tank, Babula tank, Khara tank, Naigaum tank and Nanglia tank filled in 1907. The site of the old Sankli-tank is now occupied by a fire-brigade station and Municipal ward offices, and the same is the case with the Nanglia tank and a portion of the Babula tank, which is not yet (1907) wholly filled up. In addition to these works the Health Department of the Municipality have reclaimed altogether 86 acres of the Tardeo-flats by filling them up with refuse and earth to a depth varying from 8 to 25 feet; they have leased from Government 17 acres at Varli, and two large plots of land at Sion which they have likewise raised by 2 to 6 feet; and they have also raised the level of certain smaller areas at Arthur road and Mahim Mori road.

The areas within which wholesale or part reclamation has been carried out by the Port Trust since 1873 are the Sewri Bandar, Frere Estate, Tank Bandar, Mazagon Estate, Elphinstone Estate, Mody Bay Estate, Customs Bandar, Wellington Bandar, Apollo Bandar, Apollo Reclamation, and the Colaba Bandars.[1] The total area rendered available by

[1] The periods at which these reclamations were completed are as follows:—Sewri Bandar 1897; Frere Estate 1897; Tank Bandar 1894-95 and 1904-05; Mazagon 1904-05; Elphinstone Estate 1879;

these reclamations amounted to nearly 165 acres. At the present date (1909) the Port Trust is at work upon the great Mazagon-Sewri Reclamation Scheme, the foundation stone of which was laid by H. E. the Governor of Bombay in December, 1907. For all practical purposes the Port of Bombay has up to the present time ended at Mazagon. Beyond Prince's and Victoria Docks is a long stretch of small bandars, basins and wharves where, at a part of the harbour too shallow to be used by ships of heavy tonnage, hundreds of native craft anchor. Furthermost of all is the coal wharf where the heavily-laden *padavs* (prows) deposit their burden ; next to it lies the little yellow building known as the old powder-magazine, occupying a small arm of land ; and behind this lies the muddy bay containing the timber pond and hay wharves. The rest is muddy and rocky foreshore as far as Sewri village and fort, which lie at a short distance from Kurla creek. The outer line of the Mazagon-Sewri Reclamation is almost identical with a line laid down in 1865, when it was proposed to reclaim practically the entire area between Mazagon and Pir Pav on Trombay Island ; and the area now in process of reclamation forms a very considerable portion of the reclamation area projected in that year and will eventually add to Bombay an area nearly as large as Elephanta Island. The total area to be reclaimed measures 583 acres, representing an addition of 4½ per cent. to the present area of the island (14,342 acres), and the new wharf frontage will be a little over 2½ miles in length. The total cost of the undertaking is estimated at nearly 157 lakhs. The chief benefit arising from the project when completed will be the transfer from Colaba to Mazagon of the Cotton Green, which will be located where the old timber ponds now are and will occupy 330,000 square yards of land against 180,000 occupied at Colaba. The whole of the grain and seed trade is also to be transferred to the new area, a large portion of the reclaimed land at the Trombay end

Mody Bay, 1879 and 1888; Custom Bandar 1892 ; Wellington Bandar 1894 ; Apollo Bandar 1888 ; Apollo Reclamation 1900 ; and Colaba Bandars 1890 and the remainder in 1902.

being reserved for the goods yard and depôt of the G. I. P. Railway, which will in return hand over to the Port Trust its present yard at Wadi Bandar. Seven acres of the reclaimed area will be utilised as a Telegraph stores yard ; new timber ponds will be constructed close by Sewri Fort ; and from the outer end of the reclamation a pier will probably be thrown to carry a pipe line into the new Bulk Oil depôt which was established between 1905 and 1907 on the inland side of Sewri village. Closely connected with the scheme is the new harbour railway from Sion and Mahim, which will eventually have a quadruple track and will greatly facilitate the traffic of the Port by running direct to its extremity at Sewri and thence for another three miles to connect with the present railway system of the docks.

Another reclamation of some importance was completed by the City Improvement Trust in 1906 at Colaba, and has rendered available for residential purposes about 89,360 square yards of the foreshore of Back Bay. This project cost nearly 5 lakhs, and has proved so lucrative that the desirability of reclaiming further areas in Back Bay has already become a subject for serious debate.[1]

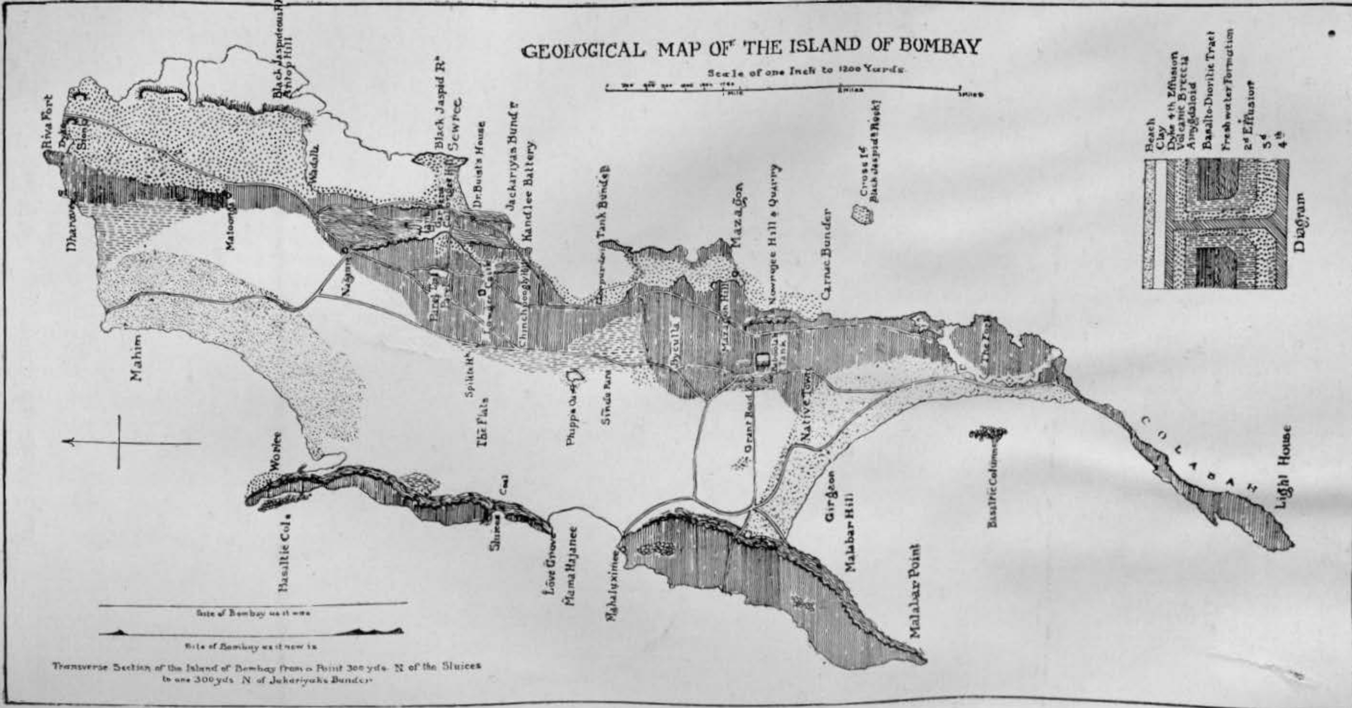
Geology.

Detailed investigation of the various strata composing the island of Bombay has proved that there were three distinct periods in the formation of the island : first, the period of the deposit of freshwater strata, secondly, the period of volcanic effusions, and thirdly, that of the deposit of marine strata. It is probable that the base of the island was formed by a still earlier series of volcanic or trappean effusions, upon which the freshwater formation was subsequently deposited ; but definite evidence of this fact is not forthcoming, and the theory, although plausible, still lies within the limits of conjecture.

First period.

Of the three main strata referred to above, the freshwater or lacustrine formation, belonging to the middle cretaceous or eocene epoch, is by far the oldest. It originally extended all over the

[1] James Douglas at page 174 of "Bombay and Western India" gives a map showing the reclamations carried out between 1816 and 1890.



Facsimile of a Map accompanying an article on the Geology of Bombay Island by H. J. Carter, Esq., Assistant Surgeon, Bombay Establishment. Printed in Journal of the B. B. R. A. S. Vol. IV., 1852.

sland,[1] and occupies a position midway between the overlying igneous basalt and the underlying amygdaloidal trap, which, being a subsequent effusion, has separated it from the rock-bed upon which it was formerly deposited. Its upper portion is seen entire for 36 feet below the basalt, and the presence of scoriæ in some places argues that it must have been deposited subsequent to some of the volcanic effusions.[2] The material composing the strata is volcanic in origin and contains much wood, leaves, fruits in a fragmentary condition, and the fossilised remains of plants, resembling large bulrushes, of *cypridæ*, small frogs and marsh-tortoises.[3] The thin layers of which the whole strata are composed show that the material must have been deposited gently and gradually and was therefore probably the sediment of a lake rather than of a swift stream. Moreover, these sedimentary lacustrine beds are intercalated in many places with the very highest trap flows, and with the single exception of the *cypridæ* their fossils are quite distinct from those found in the lower groups of sedimentary deposits. This proves that long periods of repose, during which lakes were formed and became stocked with living animals, intervened between the successive outflows of lava, which, spreading over an

[1] And probably over Salsette also, for portions of it have been found in the volcanic breccia at Ghodbandar. *See* "Geology of the Island of Bombay" by H. J. Carter, Assistant Surgeon, printed in the Journal of the Bombay Branch of the Royal Asiatic Society, July 1852.

[2] Summary of the Geology of India by H. J. Carter, Assistant Surgeon, Bombay, 1857.

[3] In the month of June 1861 Dr. Leith presented to the Bombay Branch of the Royal Asiatic Society a piece of carboniferous shale, with the impressions of frogs' feet upon it, which he had found at the sluices among the debris of the subtrappean freshwater formation. The latter had been dug up to form the outlet of the main drain of Bombay into the sea. Again, when examining portions of the thin stratum of the lacustrine formation, which was exposed in the great scarp of blue trap at the Naoroji Hill quarry, Dr. Leith discovered foliated pyroxene in black rhombic crystals, about one-fifth of an inch in diameter on *Prehnite*, *Chabasite*, *Laumonite* and *Dodecahedral felspar*, and portions of brown sedimentary strata bearing casts of *Cypridæ*. This stratum lay between two beds of blue trap, the upper being 90 feet thick and the lower 40 feet thick. The latter bed rested on volcanic breccia, which also contained large fragments of the freshwater formation.

uneven land surface, cut into hills and valleys by subaerial denudation, must have dammed up the valleys of streams and converted them into lakes. Other flows might fill up the first lakes, but would produce fresh ones by isolating fresh hollows : for the flows, however liquid, could not have presented an absolutely plain surface, and the outbursts from different foci must have crossed and dammed up the hollows between flows from the same crater.[1] Corroborative evidence of the alternation of the freshwater formations with periods of volcanic activity lies in the discovery by Assistant Surgeon H. J. Carter of a three-inch stratum, within three inches of the overlying basalt, composed almost entirely of casts of *cypridæ*,—not their valves alone which they are wont to shed annually but the entire casts, showing that some sudden alteration of the water in which they were living took place, whereby they all suddenly perished and fell to the bottom.[2]

Second Period.

At the outset therefore of the second or volcanic period of the island's formation, we may assume that Bombay consisted of a great lake above the level of the sea, though owing to subsequent depression the general position of its strata now lies below sea-level. The volcanic period is marked by four distinct effusions, the earliest being that of the great basalto-dioritic trap which caps the main ridges and was once presumbly continuous all over the island. This is a typical volcanic rock and must originally have been much thicker than it is now, though even to-day it is 90 feet thick on the eastern side and 51 feet thick on the western side of the island. The most compact and clearly stratified flow is at Malabar Hill, where it rests on the freshwater formation, visible

[1] Sketch of the Geology of the Bombay Presidency by W. T. Blanford, F.G.S., printed in the Records of the Geological Survey of India, Vol. V.

[2] Journal of the Bombay Branch of the Royal Asiatic Society, July 1852. Mr. Carter remarks in the same place that this lacustrine formation contains very little coal, as all the wood and vegetable remains have been replaced by argillaceous material. The highly carboniferous portion was exposed only in one place over an area of a few square yards, when cutting the sluices for the main drain of the island.

at its base.[1] Immediately after this effusion the site of Bombay was a black and arid plain, which gradually became fixed and hardened, and thus offered a serious obstacle to the second effusion which burst up below the first, and which, failing to find a ready outlet, followed the course of the freshwater strata underlying the basalt, intercalating and breaking them up, and thus giving rise to the amygdaloidal structure which is its chief characteristic. This amygdaloid rock invades the freshwater strata in every portion of the island, and has broken them into masses which now lie embedded in its structure or, in the form of chert and jasper, twisted and contorted in all directions and strewn over its decomposing surface.[2]

The third effusion, which is classed as volcanic breccia, combined with the second or amygdaloid effusion to raise up the two great longitudinal ridges, in the plain of the first or basalto-dioritic, which running north by east and south by west now border the eastern and western sides of the island; for these ridges are most elevated where those

[1] (i) The flow must have been horizontal from Walkeshwar to Varli, for it rests conformably throughout that distance (4 miles) on sedimentary beds. See sketch of the Geology of the Bombay Presidency by W. T. Blanford, F.G.S., printed in Records of the Geological Survey of Western India, Vol. V.

(ii) That the basalt is a superficial lava stream is proved by the following facts, which are also evidence of rapid cooling—(*a*) the presence of a glassy base, of skeleton, dendritic and rod-like forms of magnetite and ilmenite, of glass enclosures and gas bubbles in augite and felspar crystals; (*b*) the abundance of felspar prisms of small size, the longer axis of which points in all directions, and of granular and minute crystals of augite; (*c*) clusters of irregular-shaped augite crystals; (*d*) imperfectly formed and feathery felspar crystals; (*e*) the penetration of augite by felspar and *vice versa*. See the Basalts of Bombay by Colonel McMahon, F.G.S., in the Records of the Geological Survey of India, Vol. XVI.

The eleven specimens of Bombay basalt, studied by Colonel McMahon, ranged in colour from iron-black through grey to greenish-grey. Their average specific gravity was 2·82; and they were all remarkable for the absence of *olivine* and for the presence of *augite*, *plagioclase* and *magnetite*. In view of the absence of olivine, Colonel McMahon preferred to class this rock as augite-andesite rather than as basalt: and he added that the lava must have been at first in a very fluid state, in which free molecular action was impossible. It cooled with such rapidity that the minerals were unable to disengage themselves from each other and their crystallization was arrested before the symmetry of their external form was complete. *Ibid.*

[2] Summary of the Geology of India by H. J. Carter, Assistant Surgeon, Bombay, 1857.

effusions are thickest, and in the western ridge, beds of either the one or the other fill up the internal angle of the roof-like elevation which the lacustrine strata there form. This third effusion is composed chiefly of angular fragments of the freshwater formation, varying in size. It also contains fragments of the two previous effusions, and is of wide extent, forming a continuous tract from Carnac Bandar to Sion, and there composing the plain and chain of hills which constitute the north-eastern portion of the island.[1] It assumes protean forms and presents fragments of large-grained diorite which have ascended from a region far below any of which evidence is afforded in Bombay, and it is found in every stage of solidification from the coarsest and softest argillaceous breccia to the blackest and hardest homogeneous jasper seen in the hills of Antop and Sewri. "No one," wrote Mr. H. J. Carter, "can witness the cropping out of this breccia along the base of the highest part of the eastern ridge, and its free effusion at the north-east part of the island, with wells extending into it to a depth of 60 feet in Mazagon, and veins and dykes of it bursting through the basalto-dioritic tract in the same neighbourhood, without feeling satisfied that to make room for such an immense mass the crusts of the previous rocks must have given way and have been forced ridge-like upwards, as we now see them, to give vent to the volcanic torrent which, breaking through the freshwater formation and igneous rocks that opposed its progress, spread their fragments in the manner we have seen along the eastern shore of the island."[2] To this effusion of volcanic breccia we may attribute the great irregularity of the land in the vicinity of the island as also the existence above sea-level of Bombay itself, and also probably of the greater portion of Salsette.

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[1] It also forms the major portion of the Salsette hills. *See* Journal of the Bombay Branch of the Royal Asiatic Society, July 1852. Mr. W. T. Blanford pointed out that several of these breccia beds at Sion hill and other hills in the north-east of the island were originally formed from volcanic ash. Records of the Geological Survey of India, Vol. V.

[2] Journal of the Bombay Branch of the Royal Asiatic Society, July 1852; Geology of the Island of Bombay by H. J. Carter, Assistant Surgeon, Bombay Establishment.

The occurrence of a fourth effusion is proved by the existence of dykes of volcanic breccia through the third; and after this effusion active volcanic action in the island appears to have ceased. The fourth effusion doubtless followed the same course as the second and third below the basalto-dioritic tract, and contributed equally with them to the destruction of the horizontality of the first and to the elevation of the great ridges, which are the most noticeable feature of the island.[1]

We now arrive at the third period, characterized by the deposit of marine strata, which are not of very ancient geological date and probably belong in part to the post-pliocene epoch. The strata are composed chiefly of blue clay imposed upon trappean rock or occasionally upon the inter-trappean lacustrine formation where the latter has been denuded, and contain a few bi-valve shells and fragments of wood, chiefly mangrove-stumps, which may possibly have been carried down by mountain torrents. Below the clay is a layer of loam and decomposed rock containing vegetable remains,[2] and above it is a stratum of littoral concrete, *Third period.*

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[1] "The chert dyke of Sewri and Matunga hill is the remains of a lower bed forced up from below and subjected to semifusion." See Geology of the Island of Bombay by Dr. Buist, included in Geological Papers on Western India including Cutch, Sinde, and the South-East Coast of Arabia, edited for Government by H. J. Carter, Assistant Surgeon, H. C. S., Bombay, 1857.

[2] Records of the Geological Survey of Western India, Vol XI. Observations on a Submerged Forest on Bombay Island, by G. E. Ormiston, Resident Engineer, Bombay Port Trust, May 1878. At the time of the excavation of the Prince's Dock the following strata were exposed :—Firstly a surface salt or black mud, 4 to 5 feet in depth, secondly, blue clay varying from 6 to 20 feet in depth, but nearly level on the top, and thirdly below all, loam, murram and rock. The rock was very irregular on the surface, running into long narrow ridges and masses of boulders with soil between and consisted for the most part of indurated clay nodules imbedded in a hard matrix. Nearly 300 trees were found imbedded in the loam and rock. Many had been overturned before being covered by the clay deposit, but the roots were only partially torn out of the loam; while others were standing upright with their roots deeply planted in the soil. The standing trees only just penetrated to the surface of the blue clay, and for a foot or so below that level the timber was riddled by worms (*Teredo navalis*). One tree was charred on one side. The largest trunk was 46 feet long and 4 feet 8 inches in girth, the timber being straight-grained and of the colour of dark rosewood. The level of the roots varied from low-water extreme spring tide level to twelve feet below that point, which proves that the land must have subsided about thirty feet.

composed of shells, coral and sand, cemented together by carbonate of lime.[1]

Upheaval and Depression.

These marine formations are chiefly of interest as proving that the island, subsequent to the cessation of volcanic action, has undergone a series of upheavals and depressions. At the time the mangroves were growing, the blue clay must have existed at about half-tide mark ; and the mangrove beds must subsequently have sunk sufficiently deep to allow the sea to wash completely over them and deposit the littoral concrete, the whole formation having been later upheaved into its present position. Again the submerged forest below Prince's Dock, to which reference is made in the footnote on page 75, proves that depression must have occurred : for the dock is on the eastern side of the island, while the Esplanade on the western side, which is not more than a mile distant from the dock, is composed of littoral concrete, the materials of which, when first deposited, must have formed a beach or sandbank below high-water mark.[2] The alternation of elevation and depression is rendered probable by the fact that the two movements can scarcely have occurred simultaneously over so small an area as that of the island.[3] The elevation,

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[1] Transactions of the Bombay Geographical Society, Vol. X, p. XLV. Dr. Buist laid the following specimens on the table :— From railway cuttings on the Flats, kankar, kankar-tubes found in mineralised mangrove-roots, selenite and masses of oyster shells ; from the town-drain near the theatre (*i.e.*, Elphinstone Circle), masses of oyster-shells, kunkur and sea gravel ; from Dhobi tank, littoral concrete, cemented by calcareous spar ; from the wall on the glacis between Apollo and Church Gates, concrete, gravel, shells and masses of coral unaltered.

[2] The circumstance of the trees discovered below the dock being bored by the *Teredo Navalis* is in favour of their having grown in a salt marsh, where these mollusca are peculiarly abundant. Records of the Geological Survey of India, Vol. XI.

[3] (i) In the Journal of the Bombay Branch of the Royal Asiatic Society, July 1852, Mr. H. J. Carter pointed out that "elevation is proved by the existence in the centre of the island of a sea-beach, called Phipps Oart, near which no sea now comes."

(ii) In a paper on The Geology of the Island of Bombay, Dr. Buist showed that portions of laterite discovered on the island were the scanty remains of masses removed by denudation before the emergence from the sea of the tract over which they prevail. He further showed in the same connection that considerable subsidence must have taken place since the works at Love Grove and Mahalakshmi were built to shut out the sea from the central portions of the island. *See* Geological Papers on Western India,

on the other hand, cannot have been very great, for the summit of the ridge of the beach is only 8 or 9 feet above high-water mark, while the accumulation of detritus poured into the estuary of Bombay from the neighbouring hills is quite likely to have been responsible for this feature and to have filled up the lagoonal depression in the centre of the island to the level of the sea. Whether elevation or depression was the earliest movement cannot now be definitely decided ; but the very fact that Bombay was originally composed of seven practically separate islands shows that it must have been subjected in remote ages to a protracted series of upheavals and subsidences and that it vibrated like a quagmire, the vibrations diminishing in force and extent as the ages passed away.

Rocks. Bombay, like most of the neighbouring islands of the north Konkan, is chiefly composed of Trap ; but in consequence of successive volcanic effusions that Trap assumes a variety of formations.[1] Of these one of the most widely extended is Greenstone, found at Colaba, Naoroji Hill, Chinchpooghly, Parel, Love Grove and Varli. It composes about one-fifth of the whole island, and appears both in columnar form and in detached masses, the intervals between the columns or masses being occupied by decomposed rock or by red earth. It is occasionally globiform, contains hard crystals resembling porphyry, and presents an appearance varying from that of hard clay to soft earth. The higher beds of greenstone are hard, dark, crystalline and are with difficulty broken ; while the lower beds fracture easily and are well suited for building purposes. *Greenstone.*

Basalt. The Basalt, which occupies so large a portion of Malabar Hill and Mahalakshmi, is slightly columnar in the former area and is stratified in the latter. Usually it is traversed by curious greenish veins. It breaks easily into road-metal, but has no binding properties,

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including Cutch, Sinde and the South-East Coast of Arabia, edited for Government by H. J. Carter, H.C.S., Bombay, 1857.

[1] This account of the Rocks of Bombay is taken from a Memoir on the Geology of Bombay submitted to Government by Dr. Buist in 1850. A copy of the memoir is contained in the office of the Collector of Bombay, File (1846) B. No. 207.

and by reason of its great solidity is injurious to horses feet. On the Back Bay side of Malabar Hill it rests upon argillaceous strata ; on the Breach Candy side it runs out into the sea to an unknown distance. Basalt constitutes the Bandora promontory and in all probability forms a continuous dyke along the shore up to the point where the hills recede from the littoral.

Chert.

The black jasper or chert composing the promontory of Sewri greatly resembles the basalt of Malabar Hill : but close examination has shown that it has the same specific gravity as jasper, strikes fire with steel, is luminous when rubbed in the dark and emits a strong sulphurous smell. It shows considerable traces of stratification, especially towards the northern end of the mass, the dip being at an angle of 25° and split across into semi-prismatical masses. The rock, which measures 200 feet across, 1,000 in length and 40 in height at Sewri, disappears suddenly on the verge of the salt-pans, but reappears again at Matunga where it forms a considerable hill. It decomposes very slowly, and affords no sustenance to any kind of flora except the palmyra, while the heat to which it has been subjected has extinguished every trace of organic matter. Far too hard for building purposes, it is at the same time too sharp and splinters too easily to be useful as road-metal.

Trap Tuffa and Tuffaceous Trap.

Trap Tuffa is to be found on Parel road, at Chinchpooghly, Matunga, Sion and along the shore from Mazagon to Sewri. It usually appears in beds which divide the trap into dense masses, and owing to the absence of mural precipices has only been exposed near the sea in wells and quarries. It varies in appearance from a polished black rock, full of cavities, accompanied usually by beds of chert, to a reddish vesicular rock, much corroded and replete with angular fragments of brown felspar embedded in a brown cement. A third variety, which was discovered in the undulating hills on the edge of the salt pans,[1] was a vesicular amygdaloid with a purple base and was declared by Dr. Buist to be identical in appearance with some of the Aden lavas.

[1] *Ibid.* See p. 77.

A curious white trap appears to the east of Chinchpooghly hill, which is soft and easily cut when first raised, and has on this account been largely used for troughs and spouts:[1] while a third variety of purplish porphyritic appearance forms one of the small hills in the Sion section and stretches southward from that point to the cemetery at Sewri. It consists chiefly of irregular masses of purple clay, which can be easily cut with a knife when freshly dug but which rapidly decay on exposure to the air.

Sedimentary Rocks.

These rocks, which represent the early lacustrine formation of the island, run from Malabar Point to Chaupati and from Mazagon to Sewri, and also appear at Matunga, Mahim, near the Byculla Club, and close to the drainage works at Love Grove, Varli. They are full of organic remains and vary in colour from a yellowish-brown to the blackness of coal-shale. Beds of jaspedious matter sometimes traverse them for a considerable distance, while in the area formerly occupied by Sewri Fort they have been fused into black jasper. These sedimentary strata have supplied the wells of the island with fresh water and are almost invariably below the level of high-water mark.[2]

Other Formations.

Of more recent formations, the oldest, which Dr. Buist denoted as Older Pliocene, consists of brown earth filled with angular fragments of rock and appears at Parel, Matunga, Mazagon and Byculla at a level 10 to 20 feet higher than the lowest shell-bearing formation. It lies below the Blue Clay, which forms the second deposit, and probably constituted the soil of the island at a period prior to the subsidence which brought the Blue Clay into existence.[3] The next or Newer Pliocene formation consists of two distinct strata of Blue Clay, full of *kankar* and containing

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[1] Dr. Buist records that this white trap forms a large aqueduct formerly utilised for the supply of water to the fort and village of Sewri from a well, bearing date 1626, at the bottom of the adjoining hill.

[2] Dr. Buist (*ibid*) records the curious fact that all the wells in the island, of moderate depth and situated near the sea, ebb and flow with the tide.

[3] Dr. Buist (*ibid*) mentions this formation as appearing in all the tanks and wells near the Grant Medical College.

many mangrove roots bored by worms. The older stratum, discovered at Sewri in 1849, is free of salt and bakes into a hard brick; the newer stratum at Love Grove crumbles into powder on the application of heat. The Post-Pliocene and recent formations consist of beds of shells, sand and gravel, either loose or cemented by calcareous matter into a species of concrete. These beds appear in the western portion of the Esplanade, at Chaupati, in the city proper, at the base of Malabar Hill, at Sewri and in the Mahim woods: while loose gravel beds are found below high-water level in various parts of Colaba, in the Dockyard and other parts of the Fort, in Mahim woods and at the western end of Grant road. These beds are stratified, the strata undulating slightly from 2° to 3° to the east and north-east, and extend along the major portion of the island's shores, furnishing an open soil and abundance of water for the cultivation of cocoa-nut palms.[1]

Of exogenous rocks much Granite,[2] Limestone, Chalk-limestone, Ironstone and other kinds have in past years been found strewn about the southern portion of the island and are believed from their appearance to have originally been brought to Bombay as ballast, probably from China.

Red earth, which is probably decomposing trap, is found on the surface of the trappean rocks in most parts of the island.[3] It is much in demand with gardeners for admixture with other more promising but in reality less productive soils, and when fed with organic matter is extremely fertile.

Climatology. The discussion on climatology[4] which is given below is based on observational data extracted from the

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[1] Dr. Buist (*ibid*) mentions that these beds form a border along the island of Versova as far as Bassein, having been thrown up under the shelter of the Basalt Dyke which runs north from Malabar Hill. The beds were extensively quarried in the middle of the nineteenth century for building-stone, which was shipped to Bombay.

[2] Dr. Buist (*ibid*).

[3] This is known to the natives as *Lal Matti*. Its character and position is discussed by Dr. Buist at p. 185 *et seq.* of The Geological Papers on Western India by H. J. Carter, Bombay, 1857.

[4] Contributed by Mr. Nanabhai Ardeshir F. Moos, Director of Government Observatory.

records of the Colaba Observatory extending over a period of sixty years. In order to give an adequate idea of the utility and importance of the series so collected, concise descriptions of the instruments and of the methods employed to secure the data have been given separately under the article on "The Observatory [1]." The present article being restricted to "Climatology," any detailed history in full of the complex phenomena of meteorology must for obvious reasons be inadmissible. Nevertheless sufficient information is collected to present a fairly complete picture, descriptive of the various atmospheric phenomena whose actions and interactions determine the climate of Bombay.

The Observatory is situated on a fairly open site about 3 miles from the Fort and about 4 miles from the city. It is fully exposed to the effects of the elements. Differences have often been noticed between the values of the meteorological elements at Colaba and those in the city of Bombay, but they are not more marked than is usually observed at other places, where the situations of the Observatory and the city or town are dissimilar [2]. Generally the mean annual temperature of places where many buildings are closely built together as in a city is from 0°·5 to 1°·0 higher than in the open country as in the immediate neighbourhood of the Observatory. The differences in temperature are most marked about sun-rise and sun-set, while at noon, on account of the greater controlling effect of the meridian sun, the differences are least. The range of temperature is somewhat more contracted in the city than in the open country. Relative humidity, which is an important climatic element, is also affected by local surroundings and depends upon the geological features and the general nature of the surface ground and sub-soil, though the strong sea-breezes which blow continuously over the city no doubt greatly contribute to keep the conditions fairly uniform everywhere in the city and island of Bombay. The rainfall is often different at places a

[1] See Places and Objects of Interest.

[2] *Vide* Gen. Adm. Report for 1871-72 on the difference of the annual rainfall at Byculla and Colaba.

few miles apart owing to the local surroundings. This difference is most marked during an abnormal monsoon, which is either too strong or too deficient in strength, though it may be noted that when the monsoon conditions are normal, the precipitation in immediately neighbouring localities, in spite of local factors, is fairly uniform. Notwithstanding these small variations in the values of the meteorological elements, the climate, as derived from the data of the Colaba Observatory, may be taken as fairly representing the conditions obtaining in the city of Bombay.

The climate of Bombay may be generally defined as fairly equable. Neither the variation of temperature from month to month nor the fluctuations which occur from day to day are by any means significantly large. Such changes known as the "Variability" of temperature, especially the daily variability, which has a potent influence on organic life, is fairly small as will be seen presently—a result mainly due to the proximity of the sea and the presence of large quantities of aqueous vapour in the atmosphere which tempers the extreme effects of temperature. This however renders the climate even during the winter months more relaxing than invigorating, and during the summer months strangers are apt on that account to denounce it as that of a Turkish bath. The prevalence during the winter months of the comparatively cold and dry east winds brings no advantage, as these winds blow over the land and can hardly be so fresh and free from germs of disease as those which come from the sea.

The division of the year into seasons is appropriately two-fold—the dry and the wet seasons—as indicated by the great systems of wind, the north-east and the south-west monsoons, which prevail alternately during the year from October to April and May to September respectively, over a wide area including the continent of India and the Indian and the Pacific Oceans. These wind systems which practically determine the summer and the winter monsoons (seasons) arise from much the same causes which start the minor and local system of the land and sea-breezes, but are

on a much larger scale, owing to the *seasonal* differences of temperature and pressure over a wide area including the plains of Asia in the north and the Indian and the Pacific Oceans in the south. The change from the winter to the summer monsoon does not occur all at once. The winds become feeble and uncertain in direction during the transition period which lasts for about 3 or 4 weeks, and gradually the prevailing west-south-west direction is established. When this current has acquired a certain force, it finally culminates in the first heavy precipitation of rain familiarly called the break of the monsoon. This occurs between the 1st and the 15th of June, the average day for Bombay being the 6th June. It is generally accompanied by storms of considerable violence. These disturbances, especially those which in June and September or October mark the incoming and the receding currents, are known as the "Elephantas."[1]

For several days preceding these storms, generally during the afternoon, the eastern and south-eastern skies become lurid with thunder clouds. These are purely local disturbances which affect a fairly large area on the east of Bombay, namely the strip of land lying between the main coast and the Ghats. As night approaches the clouds keep up fitful discharges of lightning which increase in intensity and nearness, until after a few days such con-

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[1] It is usually understood that this title is derived from the fact that these storms approach from the direction of the island of Elephanta. The name, however, was originally given by the Portuguese to violent storms occurring at the end, though some travellers describe them as at the commencement,' of the monsoon. The Portuguese took the name from H, *hathiya*, Skt, *hasta*, the 13th Lunar asterism, connected with *hathi*, an Elephant, and hence sometimes called the sign of the elephant. The *hathiya* is at the close of the rains. Sir Thomas Roe (in Purchas) speaks of "the Oliphant;" Schulze refers to "the Elephant, the yearly raging tempest"; Thevenot speaks of "the Elephant, Vent d' Orient, accompagnè de gros nuages qu'on appelle elephans parcequ'ils en ont la figure"; Fryer wrote 'In the south-west part of Ceylon we have the tail of the Elephant full in our mouth; a constellation called by the Portuguese *Rabo del Elephanto*, known for the breaking-up of the monsoons;' and Ovington remarked that "The Mussoans are rude and boisterous in their departure as well as at their coming-in, which two seasons are called the Elephant in India." Ives and Grose also mention "Elephantas as at the end of the monsoon" *See* Hobson Jobson (latest edition).

ditions are determined as culminate in a storm, which is not infrequently repeated on successive days. The conditions preceding the storm indicate a high ground surface temperature. There is usually a light wind in the beginning and the lower strata of the air become highly saturated with moisture. The depth of this disturbance is comparatively great, and the vertical temperature gradient becomes very steep throughout this zone of disturbance, perhaps a degree or more for every 100 feet of ascent. The atmosphere under these conditions becomes thoroughly unstable. There is a violent rush upwards of heated air fully saturated with moisture which, as it ascends, displaces the cooler and drier air above. When this interchange takes place through a sufficient depth to carry a large quantity of the lower surface air to a definite height where the prevailing temperature is below dew-point, sudden condensation occurs. The rain and evaporation, which result rapidly, cool the central portion of the disturbed area and the conditions there are suddenly reversed. The air in the central regions now being denser descends, while everywhere else around this area the currents are ascending as before. The advent of the storm is for this reason heralded by a small rise of the barometer and of temperature. The wind now increases rapidly in strength and comes with a rolling motion downwards and outwards, and the storm bursts in earnest over Bombay, bringing with it heavy showers of rain. The fall of rain though often continuous for several hours is not by any means uniform, but like the wind which is subject to violent fluctuations by occasional squalls from the south-east, is heaviest when these squalls occur. The shorter the duration of the storm the greater is the intensity of squalls and rain. The barometer after this falls, the temperatures of the ground and air are reduced considerably and more or less stable conditions being re-established the disturbance passes away.

The summer monsoon current gathers strength during the month of June and its full effects are not developed till after the beginning of July which is the wettest

month of the year. The rise from the commencement to the maximum occurs in a shorter duration than the fall from maximum to the disappearance of the monsoon conditions, the effects of the receding current being observed about the end of September or middle of October. When normal conditions prevail, it will be seen that the distribution of rainfall in time—a factor important from the point of view of its effects on the crops of the country—is fairly uniform, the season being divided into short periods of alternate heavy and light precipitation, distributed uniformly throughout the monsoon months.

Temperature.

The mean annual temperature at Bombay is 79°·6. The fluctuations in the annual means do not exceed 1°·4, 81°·0 being the maximum recorded in 1865 and 78°·3 the minimum in 1866 and 1874. In the period 1847—1905, the excesses of the annual temperature were within 0°·5 of the mean of the period during 27 years, from 0°·5 to 1°·0 during 26 years, and above 1° but less than 1°·4 during 6 years. The mean variability of the annual mean is 0°·5.

The annual march of temperature.

The monthly means show that the coldest month in the year is January with a temperature of 73°·9, while May is the warmest with a mean temperature of 84°·7. The seasonal variation of temperature which until May follows fairly closely the course of the sun and varies with the zenith distance is now interrupted by the gradually growing intensity of the south-west monsoon current which brings from over the seas large quantities of comparatively cool air heavily laden with moisture in the form of vapour and clouds which effectively cut off the radiant heat of the sun, preventing a considerable portion of it from reaching the ground. This arrests the upward tendency of the temperature curve and reverses it. Not only is this effect observed in the monthly temperatures which are remarkably uniform from July to October, continuing almost within 1° of the mean of the year, but the diurnal range, as will presently be seen, is also affected by this cause. A slight rise is recorded in October, after which the march of temperature duly follows the season. It falls till January and begins to rise thereafter till the advent of the monsoon rains in June. The extreme

maximum mean temperature recorded for the month of January was 77°·3 in 1865, while the extreme minimum was 71°·1 in 1874. The notable maximum mean temperature for May—the hottest month in the year—was 87°·6 in 1865, the minimum being 82°·7 in 1866. The February means differed from the monthly mean of the period by 1° or less in 39 years; by 2° in 15 years; by 3° in 4 years and by 4°·9 in one year (1905); while the August means differed from the monthly mean of the period by 1° or less in as many as 57 years, and by 2° in 2 years only. The departures of the monthly means of all other months show an intermediate degree of prevalency.

The diurnal inequality of temperature.

The coldest hour of the day on an average during the year is about sunrise at 6 a.m. and the warmest at about 2 p.m. During January, however, on an average the coldest hour falls later, while for the months May to August it occurs earlier. The periodic diurnal range derived from observations at these average hours of extreme cold and warmth is greatest in December and January when it is 10°·8 and 10°·6 respectively, and least in July when it is only 2°·9. Though the the average conditions show that the maximum and minimum temperatures occur at the above mentioned hours, such is not always the case as the phenomenon is not wholly dependent upon the altitude of the sun. Other factors disturb the periodic diurnal flow of temperature, and the maximum and minimum derived from observations, irrespective of any specifically defined hours, may not only be different, but the range may be much greater. In climatology this 'non-periodic' range is of some importance, as it shows on an average a wider range of temperature to the severity of which organic life is subject. A glance at column 7 in Appendix V at the end of the chapter will show that while the non-periodic range runs parallel to the periodic, it is but slightly larger than the latter. The flow of temperature between 6 a.m. and 6 p.m. is of a simple character and follows almost exactly what is called the law of sines. From 6 p.m. to 6 a.m. the fall of temperature is continuous and fairly uniform throughout,

except for the earlier hours, when the fall is somewhat more rapid. The hourly fluctuations of temperature are fairly uniform in character throughout all the months of the year, except that during the dry months the rise of temperature after sunrise is much more pronounced and accelerated than during the monsoon months when the rate of increase is slow. In the winter months, November to February, the rapid rise does not commence until after sunrise, while in the months of May, June, July and August the rise commences much earlier.

In regard to the equability of climate, a glance at the absolute extreme maximum and minimum temperatures in Appendix V will show the extreme limits within which the temperature conditions have on occasions varied during the period of 59 years. The diurnal variability of temperature which is so important from a hygienic point of view (as given in column 7) shows the average change in temperature from day to day, the magnitude of which practically determines the degree of severity of the climate as affecting organic life. The average variability during the year is $0^{\circ}\cdot76$ per day. It is $0^{\circ}\cdot96$ in June and $0^{\circ}\cdot88$ and $0^{\circ}\cdot84$ in January and February. The change in temperature from day to day is least in May ($0^{\circ}\cdot42$) which is generally the healthiest month in the year.

Terrestrial radiation.

The nocturnal cooling of the free surface of the ground is an important climatic element. The difference between the minimum temperatures of the free air and of the ground surface of the earth practically measures the radiation. Its average value for the year is $6^{\circ}\cdot3$. The maximum difference, $10^{\circ}\cdot5$, is indicated in December when the sky is almost cloudless and the humidity is at its minimum value. The minimum difference, $2^{\circ}\cdot1$, occurs in July.

Solar radiation.

The measurement of direct insolation is made by the solar radiation thermometer (in vacuo), which is exposed to the direct rays of the sun. The excess of the mean monthly and annual maximum insolation over the corresponding mean maximum shade temperatures may be taken to represent roughly the relative energy of the radiant heat of the sun. The

annual mean is 48°·9. It is 42°·7 in July and 51°·1 in February—the minimum and maximum respectively during the year.

Ground temperature. This depends mainly upon the character of the ground, which in the case of the observatory is, as described elsewhere, more or less rocky, though at places it is covered with red sandy soil through which the basaltic trap crops up to the surface. The temperature of the ground is taken at various depths 1″, 9″, 20″, 60″ and 132″ below the surface. The diurnal variation of solar heat is felt to a depth of about 20 inches, beyond which depth the daily wave of the sun's heat is hardly effective, a seasonal change from month to month only being registered. This seasonal change almost, though not quite, disappears at the depth of 132 inches where the observations show a very small seasonal fluctuation. The mean annual temperature at the depth of 132″ is 83°·2 which keeps fairly constant, the extreme departures of the yearly values being $\pm$ 0°·8 during the period. A small secular change however is perceptible in the series indicating a slow but steady rise of temperature of the ground at that depth.

Rainfall. Rainfall is registered at several places in Bombay, and the falls are often found to vary considerably. The vicinity of small hills to the north of the island, especially the high hill of Trombay, must affect to no slight extent the amount of precipitation. On an average it is somewhat greater in the north-east part of the island than at Colaba in the south. The average annual fall at Colaba is 71·15 inches. The maximum fall recorded during the period was 114·89 inches in the year 1849, the record minimum falls being 33·42, 33·66, and 35·90 in 1904, 1905 and 1899, respectively, the last being a noted year of famine. Among all climatic elements the fluctuations of annual total rainfall show the greatest departures from the mean, which must have a reflex action to a marked degree upon the general condition of the atmosphere, determining the climate of any particular year. Out of 60 years only 2 years registered annual total falls more than 100 inches; 12 registered between 80 and

100; as many as 36 between 60 and 80; 7 between 40 and 60; and 3 between 30 and 40 inches. The average departure from the mean is 12·40 inches or one-sixth of the total fall.

The extreme limiting dates between which the earliest beginning and the latest ending of the south-west monsoon current are likely to fall may be definitely laid down as the 1st May and the 27th October. The average date however of the burst of the monsoon may be put down at the 6th June, after which date the rainfall steadily and rapidly increases in amount to nearly an inch daily soon after the middle of June. A short period[1] of diminished precipitation intervenes, and again about the middle of July the same maximum intensity is attained. Thereafter the decrease in rainfall is steady till about the 20th of August when the precipitation falls on an average to about 39 cents. A minor pulse now supervenes and the rainfall again increases till about the 4th September, the daily fall reaching 56 cents. The fall after this steadily decreases, and by about the middle or end of October the effects of the receding monsoon have almost always completely disappeared.

The above progression denotes average conditions though in almost all years the real phenomenon is irregular and made up of periods of alternate heavy and light falls interspersed with days of no rain whatever. A day is considered as a rainless day when less than 1 cent. has been registered. The ratio of the number of rainy days to the number of days in the month expresses the probability of a day being rainy in that month. On an average this probability in June, July, August, September and October is respectively represented by ·70, ·90, ·85, ·64 and ·15, or in other words, out of every 10 days there is a probability of 7, 9, 8, 6 days, and one day being rainy in those respective months. The greatest monthly record falls were 50·99 inches in July 1849 and 59·26 inches in July 1907; the greatest daily fall was 16·10 inches on the 18th June 1886 and the greatest hourly fall was 4·22 inches between 3 and

[1] A parallel movement is noted in the seasonal variation of the barometric pressure about this time.

4 a.m. on the 12th June 1847. Other extraordinary falls of rain within a short period of time were 3 inches between 5 and 6 p.m. of the 9th September 1862, 7·20 inches between 10 p.m. and midnight of the 12th September 1872, 3·21 inches between 5 and 6 p.m. of the 19th June 1877 and 3·01 inches between noon and 1 p.m. of the 15th August 1885.[1] There was a very heavy and unusual shower of rain on the 17th February 1906.

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1 R. P. K. writes in an article in the *Times of India* of Sept. 19, 1907:— "In Edward Ives' "A Voyage from England to India in 1754," published in 1773, which is a very valuable book containing important information about Bombay, Calcutta and other places in India in the middle of the eighteenth century, there is what I believe to be the earliest record of rainfall in Bombay. It is also most minute, for not only is the fall for every day from June to October recorded, but it is also noted how much of it fell during the forenoon, afternoon and night. Ives was in Bombay from 13th November to 16th December, 1754, and again from 4th January to 8th February, 1758. He had come out as the Surgeon of Admiral Watson's flagship "Kent." and his sojourn in India was in stirring times as he witnessed the fall of Gheriah on the West Coast and the battle of Plassey on the other side of India. In the companion ship in Watson's fleet, the "Salisbury", was another Surgeon, George Thomas, who was of a scientific bent. Thomas happened to reside in Bombay during the whole monsoon of 1756, and kept a register of the rainfall during it, and it is to his register that I desire to draw particular attention, as the year 1756 very nearly came up to our present abnormal year, 1907, in its heavy downpour. Thomas' papers after his premature death came into the hands of Ives, who made free use of them, with of course his acknowledgments in his book published in 1773.

"A few words seem necessary about Thomas' method of measuring rainfall. I do not know when exactly the rain-gauge of the present day was introduced. But evidently it was not in existence in Thomas' days, or he had not heard of it. The latter supposition is not likely as he seems to have been well versed in science. However that may be, he contrived a method of his own for ascertaining the quantity of water which fell in Bombay in the rainy season of 1756. We shall describe it in his own words as given by Ives. "I procured a lead-cylinder, of about nine inches diameter, and as many deep, marked with inches and tenths on the inside, and to prevent the water from splashing over, I cut a hole two inches from the bottom and placed the cylinder in a glazed earthen vessel. Then I tied a wax-cloth securely round it, so as to cover the vessel, and to prevent any water from getting in, save that which passed through the cylinder. When more than two inches fell, I stopped the hole in the side with wax, and poured the water from the vessel into the cylinder to measure it. I always kept it in an open place, free from the running of any hose, etc., and measured it at six in the morning, at noon, and at six in the evening." The only difference between Thomas' method and ours is that he measured in inches and tenths of an inch instead of in cents as we do.

"According to the daily register kept by Thomas during the monsoon of 1756 in Bombay, there was only one inch of rain during

Aqueous vapour.

The humidity of the atmosphere is the next most important element in climatology. Relative humidity measures the degree of saturation of the air with aqueous vapour, while vapour pressure which is initially derived and used in all observatories nearly indicates the absolute quantity of water present in the air. The latter is not of any special significance in relation to its effect upon organic life, however valuable it is in the consideration of the physical and theoretical problems connected with the complex phenomena of the atmosphere. Large quantities of water go to make up the composition of organic substances and the physiological effect of moisture upon them must obviously depend upon the relative rather than upon the absolute humidity of the air. Hence though both these factors[1] have been given in the Appendix, relative humidity alone is discussed in detail.

Seasonal humidity.

Seasonal humidity is dependent in the main at Bombay on the character of the prevailing wind modified by the

May. June was the month of heaviest downpour, giving 44 inches 7 tenths or 70 cents, quite a record, beaten only once since, *viz.*, in 1817, when June gave 45 inches 72 cents and August gave 19 inches, which is 6 inches above the average for this month. September gave 11 inches 2 tenths which is exactly the average figure. October gave 4 inches 5 tenths, which is double the average for this month. The whole of the monsoon of 1756 thus totalled, according to Thomas, 110 inches 3 tenths or 30 cents. There are before me figures of rainfall for 90 years from 1817 to 1907, and during all these 90 years only in four years has this rainfall of 110 inches in 1756 been exceeded, *viz.*, in 1822, when there fell 112·22, in 1828 which had 121·98, in 1849 which had 114 89 and in 1878 which received 111·93 inches.

"The rainfall this year up to date, that is, up to September 15th, is 99 inches 73 cents at Colaba. The rainfall for the corresponding date in 1756 in Thomas' register is 97 inches 7 tenths, or 70 cents, that is, only two inches less. Thomas most probably stayed while in Bombay where Ives says he had put up,—in a house near "the hospital without the town wall" ("Voyage," p. 35), which must have been somewhere on the Esplanade, and his register must therefore have recorded the rainfall there The Esplanade record up to September 11th this year is 96 inches 98 cents. Therefore it is fair to conclude that the record for 1756 beats the record for 1907 by nearly an inch. The maximum amount that fell during 24 hours in 1756 was 7 inches on August 6, which is of course less by 3 inches than the corresponding maximum of ten inches reached this year. The next heaviest downpour was on 28th June, 1756, when 6 inches 7 tenths were registered."—

[1] The relation between the two is expressed as follows :—If v is the vapour pressure, V the pressure at saturation as found from the tables, and H the relative humidity, then $\frac{v}{V}=H$.

march of temperature. The temperature remaining the same the winds from over the sea being highly charged with moisture increase, while those from landward on account of their dryness decrease, the relative humidity. Variation of temperature, however, is a factor to be considered at the same time ; for, with the same amount of absolute humidity, the air becomes drier with the rise of temperature, while with a corresponding fall in temperature, it becomes more saturated and humid. Considering the seasonal change in this light, the lowest point of relative humidity (0·668)—1·000 denoting complete saturation—is reached late in December. A small rise occurs after this, but on the whole it keeps fairly uniform during the months of December, January and February, as during this period the drying effects of the increasing force and duration of the easterly land winds are almost compensated by the seasonal change in temperature. Thereafter till May the humidity increases owing to the rapidly increasing force and duration of the westerly breezes in spite of the retarding drying effects of the seasonal rise of temperature. The temperature falls in June which increases the humidity ; the still further increasing force and duration of the south-westerly winds add to the humidity ; and both these causes co-operating the maximum value (0·867) is attained about the middle of July when the south-west monsoon is blowing in full strength. During the monsoon months a high and steady humidity prevails, the values fluctuating but slightly till September. The cessation of the south-west monsoon winds and the commencement of the north-east monsoon again affect the humidity, which falls in October to 0·783. The increasing force of the dry winds, in spite of the seasonal fall in temperature, influences the humidity, which falls thereafter much more rapidly and reaches its minimum value in December.

Diurnal variation of humidity.

The diurnal variation of humidity is on the other hand much more subject to the influence of the larger diurnal variation of temperature. The air is driest in the afternoon hours and most humid in the early hours of the morning. This relative difference is much less pronounced during the monsoon months.

It is greatest in December when at 2 p.m. the humidity is only 0·554 and at 6 a.m. is 0·763, while in July it is least—the respective figures being 0·841 and 0·895. It will also be seen that the effect of land and sea breezes on the diurnal change of humidity is to contract its range. As a considerable portion of the radiant energy of the sun is consumed in its action upon the humidity before it can reach the ground, the beneficial effect of aqueous vapour on the range of temperature is at once apparent.

Clouds. The clouds furnish important data as a climatic element, and the extent of the sky covered is expressed in tenths of the celestial hemisphere. During the winter months the cloudiness is very small, while it is almost complete during the monsoon months. The mean cloudiness of the months from January to April, November and December is 1·5, while the mean of the months from May to October is 6·4, the mean for the year being 3·9.

Winds. Atmospheric movements are important in determining climate. They constitute a complex phenomenon involving two factors—velocity and direction, which are not comparable. Examining the winds apart from the point of view of their direction, in so far as they affect evaporation and the actual effects of temperature on bodies—effects which are not indicated ordinarily by the thermometer—the total movements of the air during the day average during the year to 11·9 miles per hour. The maximum velocity is attained in the month of July when the wind blows at 18·8 miles per hour. It decreases steadily and attains its minimum value 9·3 in October. It rises slowly thereafter to 11 miles per hour in March, falls slightly in May to 10·7, and rises suddenly thereafter, reaching its maximum intensity in July.

Considering the seasonal change from the point of view of direction,[1] it is noteworthy that the northerly component gains strength in November with a well marked

[1] A line running north to south-south-east almost parallel to the local coast line determines the differentiation of the winds either from over the sea or from the land according as the direction from which they blow lies respectively in the left half or the right half of the circle drawn with the above line as diameter.

rise in the easterly component also. Both these increase in intensity in the month of December and indicate the special conditions associated with the cold dry climate of the season. A slow and steady shift to the west occurs thereafter, and though in January and February the northerly wind increases in intensity, its easterly counterpart almost disappears on account of the growing influence of the westerly winds. The direction in March is almost north-westerly, after which the westerly winds from over the sea rapidly gain strength. About the middle of May the northerly component is replaced by a southerly one, and the winds acquiring a south-westerly direction attain their maximum intensity in July. During the monsoon months, June to August, the wind practically blows from west-south-west. Thereafter the receding south-west current and the progressively increasing north-east monsoon affect both the southerly and westerly components which are reversed to northerly and easterly by the month of November.

Normal wind system. The normal wind systems at Bombay are determined by two contrasted sets of periodic atmospheric movements which are dependent upon the reversal of temperature and pressure conditions over land and water, namely, (1) the seasonal, (2) the diurnal. The normal seasonal (monsoon) winds are dependent upon the difference of temperature conditions over a large area extending from the Pacific and Indian Oceans on the south to the central plains of Asia on the north, modified by local conditions; while the latter—the land and sea breezes—are practically dependent upon similar conditions but are restricted to a much smaller extent of country. The prevailing direction of the normal seasonal wind during the year is west-north-west, the oscillation of which about the mean position reaches to the north-north-east about the month of December in one direction, and to the south-west in the other about June. Though this direction varies and is dependent upon the seasons, the resultant velocity remains practically uniform from 6 to 8 miles per hour from November to May. It increases thereafter and in July attains an intensity of 17 miles per hour, the direction having in the meantime veered round to west-south-west. The pro-

gression to the mean monsoon direction and velocity, the maximum of which is reached in July, takes place during the early part of June, and is greatly masked by the irregular and abnormal disturbances from the south-east, associated with the first break of the monsoon. After July the reverse movement commences, and now by a right handed rotation it passes back to west, which is about the direction reached in September, with a reduced velocity of about 7 miles per hour. The velocity continues to fall and reaches 3 mi es per hour—the minimum—in October, and the direction also steadily changes and works eventually towards the other limit, north-north-east, which is reached about December.

Diurnal phenomena Land and sea breezes

The prevailing directions of the incidence of the diurnal land and sea breezes which are superimposed upon the normal seasonal winds are W.N.W. and E.N.E. The regular occurrence of these winds is observed throughout the year and is most definitely marked from October to May. Even during the monsoon months their prevalence is noticeable though greatly concealed by the continuous and strong winds blowing from the west south-west. The intensity of the diurnal phenomenon is most marked in the month of December when the daily temperature-difference conditions over land and sea are most emphasized. They are least effective during the monsoon months when the radiant heat of the sun is almost cut off by the clouds, and the diurnal phenomenon almost disappears. During the winter months the maximum land breeze occurs at about 8 a.m., and during the summer months somewhat earlier. The maximum sea breeze occurs at about 3 p.m. on an average throughout the year. The beginning of the sea breeze which is so anxiously awaited on sultry days, especially in the months of May and October, varies in time from 8 a.m. to after 12 noon. The stronger the westerly component of the normal seasonal wind the earl er is the time of beginning, as is the case in May; a late beginning postponed to even after 12 noon is due to a strong normal seasonal wind with a pronounced easterly component, as in December. The see-saw movements of the land and sea breezes are strikingly illustrated in Bombay during the winter months

by the narrow and low-lying darkish banks of cloudlike haze, which gather every afternoon on the eastern horizon and are composed of dust, smoke and other impurities carried thither by the sea breezes. The next morning this bank of haze, which takes some time to dissipate, is transferred to the western horizon by the land breezes, and this oscillatory movement goes on from day to day, being strongly marked, on account of the low velocity of the wind and its small scattering power, during the winter months, but less so as summer advances and the velocity of the wind increases.

The abnormal winds are principally those which are associated with the transition period, the commencement and recession of the south-west monsoon current, about the beginning of June and end of September. Severe wind storms are practically rare in occurrence and do not affect the abnormal conditions of a particular season to any marked degree. These when they do occur usually fall between May and November, and though their apparent indications are cyclonic in character, the irregularities and oscillations noticed find no explanation in the general theory of cyclones as now understood.

Storms and Cyclones.

Since written history supplanted legend Bombay appears to have been visited somewhat frequently by great hurricanes and minor cyclonic storms. There is little doubt however that during the last 40 years of the last century such hurricanes abated in number and intensity. The cyclonic storms which affect Bombay may be considered separately under two heads—(1) those which originate in the Arabian Sea and (2) those which rise in the Bay of Bengal and cross the Peninsula from east to west. The storms of the latter class in their passage to the west across the Peninsula have to cross a fairly high barrier of hills (the Ghats), and unless the storm is severe and the vertical extent of the disturbance very deep, the wind circulation over the strip of land between the Ghats and the sea on the west is not seriously affected. At any rate the lower part of the storm circulation is broken up by the mountain ridge which almost always prevents the intense effects of the storm from affecting the Bombay coast. On the other

hand storms of the former class, if their course lies near enough to the coast, generally prove disastrous.

Though no precise rules can be formulated in connection with the direction and course along which the cyclones travel, their general features can fairly be laid down. The tracks of the Arabian Sea cyclones generally lie over the sea running from south to north, almost parallel to the coast with a decided tendency to a north-westerly inflection, though not infrequently the October and November storms take a sudden incurve towards the north-east and the track crosses the main coast working inland. The Bay storms, which originate higher up the Bay of Bengal, generally traverse a north-westerly course across India; while not a few which rise lower down cross the narrow portion of the Continent on the south in a westerly direction and pass out into the Arabian Sea.

The earliest storm of which record remains commenced on the 15th May, 1618, and was thus described by Cordara.[1] "The sky clouded, thunder burst, and a mighty wind arose. Towards nightfall a whirlwind raised the waves so high that the people, half dead from fear, thought that their city would be swallowed up. Many provision boats, which were lying at anchor off the shore, were dashed to pieces. In the city and in the villages, houses were thrown down or rendered unfit to live in. The monasteries and convents of the Franciscans and Augustinians were utterly ruined. The three largest churches in the city, and both the house and the church of the Jesuits were unroofed and gaped in clefts almost past repair. Nothing was more hideous than the destruction of the palm groves. Thousands of palms were torn out by the roots, and some the wind lifted through the air like feathers and carried great distances. The whole was like the ruin at the end of all things."[2]

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[1] History of the Jesuits, VI., 162.

[2] This account refers chiefly to Bassein, and the ruin which it wrought there was still visible several years later (Pietro Della Valle, *Vaggi*, III). But that it affected Bombay equally is clear from the following account of Faria e Souza in his Asia Portugueza, Vol. III:—"In May, 1618, a general and diabolical storm occurred in the neighbourhood of Bombaim. It began at Bacaim on the 15th of that month, and continued with such violence that the people hid themselves in cellars, in continued dread lest their dwellings

On September 30th, 1696, Bombay was visited by "a hard gust of wind from the east and south-east with thunder, lightning and some rain;"[1] and again on November 30th, 1702, by a furious storm, which destroyed all the small boats of the island and laid low many mango, jack and palm trees. The wind which accompanied this storm wrecked a large portion of the shipping in the harbour and denuded the island of its whole produce.[2]

A terrific storm, which destroyed three grabs completely armed and equipped, occurred on the 9th November, 1740,[3] and was succeeded on the 11th September, 1742, by a cyclone, the force of which was such "as has not been exceeded in the memory of any one now on the spot." The rain fell in torrents; all the ships in the harbour were forced from their moorings; the royal ships *Somerset* and *Salisbury* were damaged, and a large vessel belonging to a Muhammadan was driven ashore. The Mazagon Fort house was unroofed, "the thatched posts at Cooley and Sidi bandars were blown down, the Drong battery and houses and sheds at Suri (Sewri) were untiled and the Candala and Marine batteries were much damaged."[4] Again, on the 7th November, 1762, a very violent gale of wind did considerable damage to the small craft in and about the harbour, blew down many cocoa-

should be levelled with the earth; and at 2 p.m. an earthquake destroyed many houses. The sea was brought into the city by the wind; the waves roared fearfully; the tops of the churches were blown off and immense stones were driven to vast distances; two thousand persons were killed; the fish died in the ponds, and most of the churches, as the tempest advanced, were utterly destroyed. Many vessels were lost in the port. At Bombaim sixty sail of vessels with their cargoes and some of their crews foundered."

[1] Bombay Town and Island Materials, Vol. I, p. 111.

[2] Bombay Town and Island Materials, Vol. I, p. 139, and Bruce's Annals, III.

[3] Da Cunha, Origin of Bombay, p. 193.

[4] Bombay Town and Island Materials, Vol. I, p. 240. "This day had an exceedingly hard storm of wind and rain. The ships in the road drove from their anchors, and a large Moor ship parting her cables ran ashore between Cross Island and Dongrie. The *Somersett* and *Salisbury* ran foul, the *Somersett* breaking her main yard and part of the quarter galley and receiving, it is believed, other damage; the *Salisbury's* head was carried away and part of the cut-water." Government Consultation of 11th September 1742.

nut trees and "in other respects damaged most of the oarts and houses on the island."[1]

The 3rd November, 1783, was remarkable for a storm which is said to have been fatal to every ship in its path; and on the same date in 1799 H.M.S. *Resolution* with about 1,000 small craft and 400 lives were lost in Bombay harbour.[2] The nineteenth century witnessed two terrific storms, of which the first occurred on the 15th June, 1837. The *Monthly Miscellany* described it as "an awful storm. It rained and blew and howled furiously; trees and houses were torn down; the island was deluged with water; on the Bombay Green (*i.e.*, the Elphinstone Circle and gardens in front of the Town Hall) the water which had collected rose to the waist; numbers of shipping were torn from their anchorages and were driven up or down the harbour. The loss on that eventful night has been computed at not less than £300,000 to property in various forms, and the loss of numbers of lives."[3] The second storm took place on the 2nd November, 1854, and within the space of four hours destroyed property valued at half-a-million pounds sterling and killed one thousand people.[4] A third storm occurred in November, 1871, and lasted for 36 hours, namely, from 10 a.m. of the 12th to 10 p.m. of the 13th, the velocity of the abnormal wind

[1] Bombay Town and Island Materials, Vol. I, p. 348. The storm was made the basis of a petition from the Fazendars of Mahim and Bombay and the oart-farmers, asking for remission of assessment. The Vereadores calculated the total damage at Rs. 14,330, but the Committee of Accounts reduced this estimate to Rs. 8,500, which amount was sanctioned by Government.

[2] Da Cunha, Origin of Bombay, p. 321.

[3] The Bombay Gazette for that week contains the following account:—"The bay was strewn with bales of cotton and wrecks of boats and ships: in Back Bay the dead were washed out of their graves and floated about the shore. The roofs of the terraces in the Fort were carried away in the mass and were to be seen floating along on the wind as if they had been mere Pullicat handkerchiefs. Out of nearly fifty vessels in the harbour, scarcely more than six were to be found which had not suffered from the gale." Four hundred houses in the town are said to have been destroyed, and the East India Company lost two steamers and two ships of its fleet. See Da Cunha, Origin of Bombay., p. 193.

[4] Bombay Geographical Society's Transactions, Vol. XV.

The Bombay Times of 1839 records a severe storm on May 22nd, 1839, in which a ship was struck by lightning and three men were killed.

throughout that period being on the average 50 miles per hour.[1] Cyclonic disturbances of less intensity occurred on the 6th, 7th and 8th January 1889, and on May, the 24th, 1903, but caused no extensive damage to life or property.

Barometric pressure. The annual variation of the barometric pressure follows more or less closely the law of sines. The maximum pressure, 29·952 inches, occurs about the 23rd December, when fine weather prevails with cloudless skies or the skies are covered with the fine high clouds associated with clear weather. The minimum, 29·649 inches, is reached about 14th June when the S.-W. current is almost at its maximum intensity, determined by the greatest pressure-differences over the plains of India and over the Indian Ocean. The most pronounced interruption in the regular march of the seasonal variation consists of the retardation observed about the 3rd July in the rise of the pressure after the minimum has been passed, and of the superposition of a reverse oscillation, the effects of which last till about 19th July. Thereafter the regular progression goes on in accordance with the law of sines.

The daily fluctuations of the barometer are very regular and exhibit a double oscillation with two maxima and two minima in 24 hours. In the day portion of the oscillation the dominant maximum occurs on an average at about 9-30 a.m., and the dominant minimum at about 4 p.m., while in the night portion the subsidiary maximum and minimum occur respectively at 10 p.m. and 3-15 a.m. For the major portion of the year the day oscillation is the dominant feature of the variation, while during the four monsoon months this predominance is suppressed and both the day and the night oscillations acquire equal significance. The range of amplitude of the night oscillation remains about the same throughout the year, but that of the day portion of the oscillation has an annual variation, the main characteristic of which is similar to that of the range of temperature with which it has an apparent cor-

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[1] General Administration Report for 1871-72. It was in this storm that the steamship *General Outram* was wrecked off Ratnagiri.

relation. It is largest in the winter months, gradually contracts thereafter, and reaches its minimum value in July, when it almost equals the amplitude of the night oscillation. This gives the diurnal variations for the monsoon months, especially July and August, their peculiar character—a simple double wave almost exactly repeating every 12 hours.

Storms are accompanied generally though not invariably by a considerable depression of pressure. The maximum intensity of the storm usually follows the upward turn of the barometer, though at times it coincides with, and on rare occasions precedes, the rise of the barometer. Abnormal features in the shape of depressions of the barometer are specially noted during the transition period about June and September when the conditions determining the commencing and retreating monsoon are about to be established.

Seismic disturbances

Bombay lies on the extreme west edge of one of the most prominent and widely spread rock-systems of India known as the Deccan Trap, which was formed, in all probability, immediately after the cretaceous period. The great igneous outbursts, with which the cataclysm then was associated, resulted in profuse flows of lava which, as suggested by Sir A. Geikie, were in all probability poured out from fissures and not from volcanic cones, and to which chiefly the peculiar horizontal formations characteristic of the trap-rocks are supposed to be due. The flow of lava extended over a vast area, covering a large portion of India lying between 10° of latitude and 16° of longitude. The traps about the island of Bombay are mostly basaltic and belong to the uppermost series of these rocks, and the presence of beds of volcanic ash in the form of ash breccias is by no means rare in the vicinity of Parel and Sion. The action however ceased æons ago, and no volcanic action has been recorded in Bombay even in legend.

In the process of the secular cooling of the earth, the constant re-adjustment of the stresses between the hot nucleus and the surrounding crust of the earth, which, according to the recent researches of Strutt, is, in all probability, not more than 50 miles in

thickness, is the principal cause of all seismic disturbances, including earthquakes. From the frequency and distribution of severe earthquakes during the last 6 years Prof. Milne has mapped out special regions or zones of danger on the surface of the earth. The important larger zones lie on rings or circles of 60° and 50° radii, described about the Tahiti islands in the Pacific and about the Sahara in Africa respectively. The two danger zones nearest to Bombay—(1) the Indian Ocean zone (including a portion of Southern India) and (2) the Central Asian zone (including the Himalayan range and the northern portion of India), which, together with the zone of the Azores, lie on the less notable of the two rings, fairly indicate the situation of Bombay in regard to the danger zones and the probability of the occurrence of an earthquake in its neighbourhood. We know nothing about the fixity of these zones or whether any slow change is going on in their relative distribution. But though no place on the surface of the globe can be deemed absolutely safe, Bombay may be regarded from more considerations than one as being certainly more safely situated than many other places in India.

Two small disturbances of local origin, but of no particular significance, were recorded—one on the 8th February 1900 and the other on the 26th March 1906, the latter being somewhat more pronounced than the former. The former, a slight shock, was registered at 2h. 42m. a.m. (local time). The latter, which was a succession of shocks, occurred at 6h. 40m. a.m. (local time), and continued for about 10 seconds, the instruments showing the oscillations for about 3 minutes. This shock was reported to have been felt at several places in the districts surrounding Bombay.[1]

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[1] In 1670 Ogilby spoke of an earthquake at the beginning of the 17th century, which swallowed up many houses in Bassein. This must be the earthquake recorded by Faria e Souza in 1618. Slight shocks were felt in June 1819 (Bombay Courier, June 19, 1819), on the 26th December, 1849 (Bombay Times, 2nd January, 1850), in December, 1854 (Bombay Times, December 11, 1854), and in July 1863 (Times of India, 22nd July, 1863).

APPENDIX I.

Municipal Sub-Divisions of Bombay Town and Island.

Ward.	Name of Section.	Area in Acres.	Area of Ward in acres.
A ...	Upper Colaba	144·19	1,357·88
	Lower Colaba	283·92	
	South Fort	131·70	
	North Fort	134·30	
	Esplanade	663·77	
B ...	Mandvi	164·66	607·04
	Chakla	51·58	
	Umarkhadi	105·33	
	Dongri	285·47	
C ...	Market	89·11	477·52
	Dhobi Talao	99·69	
	Phanaswadi	125·23	
	Bhuleshwar	75·79	
	Khara Talao	41·64	
	Kumbharwada ...	46·06	
D ...	Khetwadi	170·30	1,594·11
	Girgaum	124·60	
	Chaupati	111·77	
	Walkeshwar	545·43	
	Mahalakshmi	642·01	
E ...	Mazagon	638·59	1,988·21
	Tarwadi	479·68	
	2nd Nagpada	34·00	
	Kamathipura	66·14	
	Tardeo	228·68	
	Byculla	511·52	
	1st Nagpada	29·60	
F ...	Parel	552·45	5,259·26
	Sewri	445·73	
	Sion	4,261·08	
G ...	Mahim	1,286·23	3,101·87
	Varli	1,815·64	

APPENDIX II.

Names and hights of hills in Bombay Town and Island.

Name.	Height feet.	Name.	Height feet.
Bhandarwada Hill ...	243	Naoroji Hill ...	173
Bhoiwada ,, ...	216	Rauli ,, ...	261
Braae ,, ...	240	Sewri Fort ,, ...	137
Cumballa ,, ...	230	Sion ,, ,, ...	239
Flag Staff ,, ...	251	Small Antop ,, ...	166
Ghorapdeo ,, ...	170	Middle ,, ,, ...	177
Golangi ,, ...	265	Large ,, ,, ...	208
Love Grove ,, ...	185	Varli hill	243
Malabar ,, ...	260		

[The levels are referrable to the Town Hall datum (the height of the lowest step of the Town Hall) of 100 feet.]

APPENDIX

List of Light-Houses and Light

Name of light.	Position.	Number and colour of light.		Character of light.	Period of Revolution or flash.	Miles visible in clear weather.
		Fog.	Signal.			
Outer Light Vessel.	In 6½ fathoms, 4½ miles S. 22° W from Colaba Point.	1	White; Fog-Bell.	Occulting.	Fifteen-seconds.	11
Prong's Reef ...	Near extreme of reef, extending southward from Colaba.	1	White ...	Flashing.	Ten seconds.	18
Sunk Rock ...	On the rock	1	Red and white.	Occulting	Five seconds.	14
Dolphin Rock ...	Do.	1	Green and white.	Fixed ...	......	5
Mody Bandar ...	On the Bandar ...	2	Red ...	Do. ...	......	......
North Channel...	On Beacon	1	White ...	Do. ...	......	......
Prince's Dock ...	Tower on Island ...	1	White and red.	Do. ...	......	......
Do. ...	Tower, north-side of entrance.	1	White and green.	Do. ...	......	......
Victoria Dock ...	Leading mark staff.	1	Red ...	Do. ...	......	......
Do. ...	Do. ...	2	Do. ...	Do. ...	......	......
Trombay ...	On the Custom House Pier.	1	Do. ...	Do. ...	......	5
Kenery Island ...	On south end or highest part of Island.	1	White with red sector	Group flashing.	Ten seconds.	18

III.

Vessels in Bombay Harbour.

General description of building or vessel.	Height in feet of centre of lantern above high water.	Character and candle-power or order of illuminating apparatus.	Year established or altered.	Remarks.
Red; no masts; light tower; Bombay floating light on sides.	32	Dioptric of 3rd order, $1\frac{4}{10}$.	1842 & 1904	Light ten and-a-half seconds; eclipse four and-a-half seconds; Fog-bell rung continuously by the rolling of the Vessel.
Circular masonry tower with white, red, white and black bands.	136	Dioptric of 1st order; 29 to 44.	1874	Telegraph to Bombay.
Circular masonry, tower painted black	64	Dioptric of 3rd order, white 3, red 1.	1884	Eclipse two seconds' duration.
Grey masonry tower with white dome.	35	Dioptric of 5th order, white $\frac{1}{2}$, green $\frac{1}{8}$.	1856 1897	The white light indicates the anchorage for the English Mail steamers at night.
Two iron posts surmounted by a ball and a triangle.	... ..	Lanterns ...	......	....
Beacon black and red.	......	......	1892 1896	....
Round tower ...	... ..	Lantern ...	......	When Dock-gates are open, red over southside of channel.
Square tower ...	......	Do. ...	......	When Dock-gates are open, green over northside of channel.
Iron staff	......	Do. ...	......	When Dock-gates are open.
Lattice work staff ...	......	Do. ...	.. ...	(When Dock-gates are open.)
A pole	12	Do. ...	1866	....
Octagonal, masonry tower on centre of a flat roofed tower	154	Dioptric of 1st order.	1867 1902	Flash $\frac{1}{2}$ second. Eclipse $2\frac{1}{2}$ second, Flash $\frac{1}{2}$ second. Eclipse 7 seconds.

APPENDIX IV.

Bombay Wrecks, 1826-1872.

No.	Date of Casualty.			Name of Vessel.	Place of Wreck.	Remarks
1	1826	Nov.	10	Pilot Boat No. 4	S. W. Prongs.	
2	1830	Aug.	24	Sumbery	Between Thal and Kenery...	Arab colours.
3	1836	July	14	Two Brothers...	$\frac{3}{4}$ mile S. Malabar Point.	
4-14	1837	June	17	......	Harbour	Great gale. Eleven lives lost.
15	1840	May	8	Competent	Back Bay.	
16	1840	June	17	Lord William Bentinck	S. W. Prongs	Many lives lost.
17	1840	Do.	18	Lord Castlereagh	Do.	Do.
18	1841	July	22	Royal Admiral	S. E. Prongs.	
19	1852	June	18	Christian	Kenery Island...	Lives lost.
20-21	1854	Nov.	1	... ..	Harbour	Great gale. Two ships and many lives lost.
22-23	1856	June	12	Juddel Barry and Julia	Kenery Island	Lives lost.
24	1857	Do.	29	Bank of England	Off Alibag.	
25	1858	July	20	Alice	Kenery Island...	Lives lost.
26	1859	Do.	23	Natalie	Back Bay	Do.
27	1861	Do.	20	Louisiana	Off Alibag.	
28-30	1861	Do.	23	Three Pilot Boats	Thal Beach	

31	1862	May	13	Berchworth	Harbour.	
32	1862	June	17	James Pilkington ...	Off Vesava.	
33	1863	Do.	18	Nadirshah	Off Manori.	
34	1864	July	13	Marie Catherine	Off Alibag	French Colours.
35	1865	Jan.	7	Sydenham	S. W. Prongs.	
36	1865	March	12	Glen Sannox	Do.	
37	1866	Feb.	2	Steamer Jeddo	Chaul Kadu Reef.	
38	1866	June	20	Diamond	Off Breach Candy.	
39	1866	Do.	21	Stafford	S. E. Prongs.	
40	1866	July	12	Chapman	Off Alibag.	
41	1866	Do.	13	Vickerie	Alibag.	
42	1866	Do.	21	Zonobia	Chaul Kadu Reef.	
43	1866	Aug.	1	Di Vernon	Off Alibag.	
44	1866	Do.	1	Themis	S. E. of Chaul Kadu Reef.	
45	1867	June	28	Bombay	Karanja Shoal.	
46	1867	July	18	Terzah	South of Underi	Eight lives lost.
47	1867	Aug.	7	Merchant Prince	S. W. end of Chaul Kadu Reef	
48	1867	Do.	18	Arabistan	S. W. Prongs.	
49	1869	June	4	Bucantaur	Do.	
50	1872	July	6	England	Off Alibag.	

[1] Compiled from Wreck Chart, Bombay Town and Island Materials, Part II, 532, 5 ;

APPENDIX V.

CLIMATIC DATA FOR BOMBAY (COLABA).

Temperature (in degrees Fahrenheit).

	Means derived from 24 hourly observations, 1847—1905.	Mean departures of the means.	Means for observation hours. 1873—1905.			Diurnal range of temperature, 1873—1905.		Mean monthly and annual extremes, 1873—1905.		Mean monthly and annual range, 1873—1905.	Absolute extremes (1847—1905.) Monthly means.		Daily means.		Individual hours.		Mean diurnal variability of temperature, 1887—1896.	* Solar radiation, 1890-1904.	† Terrestrial radiation, 29 years.
			6 A.M.	2 P.M.	10 P.M.	Periodic.	Non-periodic.	Max.	Min.		Max.	Min.	Max.	Min.	Max.	Min.			
January ...	73·9	1·25	69·4	79·8	72·8	10·6	14·4	83·1	63·5	19·6	77·3	71·1	79·7	65·0	91·0	55·2	0·88	50·0	9·9
February ...	75·0	1·25	70·0	80·1	73·6	10·1	14·0	86·8	64·1	22·7	77·7	70·1	82·1	62·2	96·2	53·3	0·84	51·1	9·3
March ...	78·8	0·95	74·3	83·1	77·4	8·8	12·1	88·7	69·6	19·1	81·8	75·1	85·2	68·9	100·2	63·9	0·74	50·5	8·2
April ...	82·3	0·97	78·3	86·2	80·7	7·9	10·8	90·1	74·6	15·5	85·0	78·5	87·6	74·6	97·4	68·5	0·65	51·0	6·6
May	84·7	0·84	81·5	88·2	83·0	7·0	9·6	90·9	78·2	12·7	87·6	82·7	89·5	77·1	96·5	74·1	0·42	50·9	4·7
June	83·2	0·83	81·2	85·7	82·3	4·5	8·0	90·7	75·5	15·2	85·4	81·0	89·4	75·6	96·4	72·5	0·96	46·3	2·8
July	81·0	0·68	79·8	82·6	80·4	2·9	6·8	86·5	75·3	11·2	83·1	79·3	86·3	75·5	92·4	71·9	0·84	42·7	2·1
August ...	80·2	0·60	78·8	82·2	79·6	3·4	7·0	85·1	75·1	10·0	82·1	78·7	84·3	75·6	89·6	71·9	0·76	45·9	2·4
September ...	80·2	0·74	78·0	82·8	79·4	4·7	8·0	85·9	74·5	11·4	81·9	78·7	84·8	73·4	94·0	70·5	0·77	48·9	3·1
October ...	81·2	0·86	77·5	85·7	79·9	8·1	11·0	90·5	74·0	16·5	83·4	79·5	86·5	74·8	95·7	70·5	0·75	50·1	6·4
November ...	79·1	1·14	74·6	84·9	77·5	10·2	13·4	89·9	70·3	19·6	81·5	75·9	85·5	71·2	96·5	62·7	0·74	50·3	9·7
December ...	76·1	1·01	71·5	82·3	74·5	10·8	14·4	87·2	66·8	20·4	78·3	72·8	82·0	64·9	94·0	57·2	0·79	49·4	10·5
Year	79·6	0·54	76·2	83·6	78·4	7·4	10·8	92·4	62·3	30·1	87·6	70·1	89·5	62·2	100·2	53·3	0·76	48·9	6·3

* Average excesses of mean maximum insolation over corresponding mean maximum shade temperatures.

† Average depression of mean minimum nocturnal radiation temperatures below mean minimum shade temperatures

APPENDIX VI.

CLIMATIC DATA FOR BOMBAY (COLABA).

Precipitation, Moisture, Wind.

	Rainfall, 1845-1905. Average amount.	Rainfall, 1845-1905. Greatest monthly and annual amount.	Rainfall, 1845-1905. Greatest amount in one day.	Rainfall, 1845-1905. Average number of rainy days.	Cloudiness: whole sky =10 means derived from 5 typical observations during the day 1873—1905.	Moisture (1873—1896). Pressure of vapour. 6 A.M.	Pressure of vapour. 2 P.M.	Pressure of vapour. 10 P.M.	Pressure of vapour. Means derived from 24 hourly observations.	Relative humidity of the air complete saturation—1·000. 6 A.M.	Relative humidity. 2 P.M.	Relative humidity. 10 P.M.	Relative humidity. Means derived from 5 typical observations during the day.	Wind (1873—1896). Result and components (in miles per hour). 7 to 8 A.M.	Wind. 3 to 4 P.M.	Wind. 10 to 11 P.M.	Wind. Means derived from 24 hourly observations.	Mean velocity in miles per hour derived from 24 hourly observations.
	in.	in.	in.	in.		in.	in.	in.	in.									
January ...	0·12	2·22	1·87	0·4	1·1	0·540	0·590	0·594	0·581	0·764	0·581	0·747	0·674	4·7N, 6·0E	8·7N, 9·6W	6·8N, 0·8W	6·7N, 0·7W	10·0
February ...	0·02	0·51	0·31	0·3	1·1	·559	·629	·611	·59[illegible]	·769	·609	·74[illegible]	·678	4·4N, 4·2E	10·4N, 11·2W	6·5N, 1·3W	7·2N, 2·8W	10·5
March ..	0·01	0·20	0·20	0·3	1·4	·692	·737	·723	·715	·827	·548	·782	·713	3·3N, 2·6E	9·3N, 13·5W	5·2N, 4·1W	6·0N, 5·2W	11·0
April ..	0·05	1·57	1·04	0·4	1·7	·79[illegible]	·836	·825	·817	·841	·670	·805	·740	1·4N, 0·7E	8·0N, 14·7W	4·6N, 5·7W	4·3N, 6·5W	10·9
May ...	0·62	7·79	3·52	1·8	3·1	·855	·889	·880	·874	·821	·670	·800	·737	0·2S, 2·5W	2·5N, 13·9W	0·6N, 6·7W	0·9N, 7·6W	10·7
June ...	20·01	43·45	16·10	21·0	7·3	·895	·934	·910	·913	·869	·781	·851	·820	5·7S, 5·8W	6·3S, 12·2W	6·9S, 7·3W	6·3S, 8·4W	15·4
July ..	24·25	50·99	8·20	28·0	9·0	·876	·911	·886	·890	·895	·841	·883	·867	5·1S, 16·0W	4·6S, 17·6W	6·1S, 15·8W	5·2S, 16·5W	18·8
August ...	13·05	35·56	11·30	26·3	8·6	·846	·883	·853	·860	·895	·829	·878	·858	2·7S, 12·8W	1·4S, 15·4W	2·9S, 12·9W	2·6S, 13·8W	15·3
September ...	10·51	31·51	9·23	19·2	7·0	·838	·875	·845	·853	·905	·803	·873	·847	1·0S, 3·3W	2·5N, 11·9W	0·0, 5·9W	0·3N, 7·1W	10·9
October ...	2·02	10·40	4·27	4·7	3·4	·798	·850	·830	·829	·873	·706	·842	·783	1·5N, 6·2E	5·5N, 8·7W	2·7N, 0·9E	2·9N, 0·2W	9·3
November ..	0·43	5·53	2·48	1·2	1·7	·663	·693	·711	·698	·792	·587	·772	·692	3·9N, 8·9E	7·0N, 8·6W	5·2N, 1·1E	5·3N, 1·2E	9·7
December ..	0·06	1·14	0·95	0·3	1·3	·575	·607	·622	·614	·763	·554	·747	·658	4·7N, 9·2E	7·3N, 8·4W	6·1N, 0·9E	6·1N, 1·3E	9·8
Year ..	71·15	114·89	16·10	103·9	3·9	0·745	0·786	·774	0·770	0·834	0·690	0·811	0·757	0·8N, 0·2W	4·1N, 12·1W	1·8N, 4·8W	2·1N, 5·5W	11·9

APPENDIX VII.

Barometric Pressure, Ground Temperatures.

	Barometric Pressure, 1873—1896.				Means derived from 24 hourly observations.	Ground Temperatures, 1873—1896.				
						Means from 5 typical observations during the day.		Means derived from one observation during the day.		
	9 A.M.	4 P.M.	10 P.M.	3 A.M.		1 inch deep.	9 inches deep.	20 inches deep.	60 inches deep.	132 inches deep (1879-96).
	In.	In.	In.	In.	In.	°	°	°	°	°
January	30·011	29·891	29·967	29·915	29·943	76·4	76·7	79·7	82·3	82·5
February ...	29·987	29·868	29·947	29·894	29·922	77·1	76·9	79·2	81.6	82·0
March	29·929	29·809	29·888	29·838	29·865	80·7	79·9	81·0	81·8	81·9
April	29·863	29·741	29·821	29·773	29·800	84·1	83·0	83·6	83·1	82·3
May	29·814	29·710	29·779	29·735	29·761	86·4	85·2	85·7	84·7	83·1
June	29·702	29·623	29·690	29·637	29·664	84·6	84·8	86·5	85·9	83·9
July	29·696	29·631	29·693	29·633	29·664	82·2	82·9	85·1	85·8	84·5
August	29·755	29·682	29·748	29·686	29·718	81·6	82·0	84·1	84·8	84·4
September ...	29·827	29·732	29·807	29·747	29·778	81·5	81·6	83·5	84·1	84·0
October	29·896	29·781	29·856	29·807	29·833	82·7	82·2	83·8	84·0	83·6
November ...	29·966	29·847	29·924	29·871	29·899	81·0	80·8	83·1	83·9	83·4
December ...	30·009	29·889	29·967	29·915	29·942	78·2	78·4	81·3	83·3	83·0
Year	29·871	29·767	29·842	29·787	29·816	81·4	81·2	83·0	83·8	83·2

CHAPTER II.

PRODUCTION.

Bombay is devoid of workable minerals. Traces of iron pyrites have been found and beautiful crystals of transparent and colourless sulphate of lime or selenite have occasionally been met with.[1] The stone obtainable in Bombay is of three kinds, *viz.* :—trap found in many parts of the Island, particularly on the eastern side, basalt found between Malabar Point and Mahalakshmi, and littoral concrete found in the Fort, Esplanade, Dhobi Talao, Girgaum and Mahim sections.[2] The trap is used for building purposes and also for road-metal, the principal source of supply at present (1908) being the Sewri quarries. One brass (100 cubic feet) of rubble stone costs on an average Rs. 4/8, and this is also the price of road metal which is prepared from chips and spauls and not from block stone. Basalt being very difficult to dress is used in foundations, plinths and walls. Lime-stone (kunkur) is available in small quantities near Matunga,[3] but the quality is poor, and in consequence the local supply is obtained from Salsette. Gravels are not found in appreciable quantity. Bricks of a poor quality are made at Matunga from Bombay clay and are locally used, but generally speaking the clay found in the island is of little value for brick and tile making or for pottery. Minerals.

The vegetation of the island at the present day is composed almost entirely of types which prevail in densely-populated areas and which are usually known Botany.

[1] Times of India of 8th January 1851. Aungier in his letter of January 6th, 1672-73, to Court of Directors stated that while inspecting new works without the Tank he had discovered iron, and asked for a mining expert and books on minerals to be sent out. No further action appears to have been taken.

[2] See article on Geology, chapter I.

[3] Dr. Buist, lecturing on the raised beach of Bombay, remarked that it consisted of sand, gravel, and sea-shells converted into a solid concrete by cementation. Of this material a large number of the oldest houses in the native town were at that date (1849) built. (Bombay Times and Journal of Commerce, Sept. 26, 1849).

as weeds of cultivation.[1] Most of the trees are grown along the road-sides,[2] a certain number are cultivated in groves and orchards for their shade or for their fruit and other products, while the ordinary shrubs and trees which grow wild in most towns and villages of the western coast-line are also met with in considerable numbers. Many non-indigenous species are grown in public and private gardens, and of these few run wild.[3]

The common indigenous wild trees and agricultural plants are as follows :—*Michelia Champaca*, a planted tree ; *Artabotrys odoratissima*, an ornamental climber with very fragrant flowers ; *Anona squamosa* (the custard-apple) and *Anona reticulata* (the bullock's heart), which are both abundantly grown for their fruit ; the *Cissampelos Pareira*, a common hedge-climber ; the water-lilies, *Nymphæa Lotus* and *Nymphæa stellata*, with white, purple and more rarely blue blossoms, which are seen in most tanks ; and the Mexican poppy (*Argemone mexicana*) which is common in waste spots, and vies in profusion with *Portulaca oleracea*. One of the handsomest trees is the *Calophyllum Inophyllum* or Alexandrian laurel, which prefers a sandy soil near the sea ; several species of *Sida* and *Abutilon indicum* occur in waste places ; while in low-lying tracts, liable to flooding during the monsoon, the *Malachra capitata*, originally introduced as a rival to jute, is very common. Among avenue trees the principal are the *Thespesia populnea* (*Bhendi*) and the *Adansonia digitata* (Baobab), while the *Bombax malabaricum* (silk-cotton tree) is a conspicuous wild tree throughout the hot-weather months. Common also are

[1] This account was supplied by Professor G. A. Gammie. See also *A Catalogue of the Plants growing in Bombay and its Vicinity*, by John Graham, 1839 : and the Bombay Times, February 28th, 1860.

[2] A large number of trees were planted about 1851, in particular a fine avenue "from the Apollo Gate to the Native Town," *i.e.*, along the Esplanade to Dhobi Talao.— Bombay Times, June 1st, 1851.

[3] The character of the island's production appears to have changed considerably during the latter half of the eighteenth and the nineteenth centuries ; for at the commencement of the eighteenth century, the soil was described as "poor and barren, a sandy rock, producing little else besides batty, cocoa-nuts and a few greens." Cobbe's Church of Bombay (1714).

the *Sterculia fœtida*, *Triumfetta rhomboidea*, and several species of *Corchorus* or jute, which flower about the close of the monsoon. The most beautiful monsoon-plant is probably a wild variety of *Impatiens Balsamina;* and among first class fruit-trees must be reckoned several varieties of *Citrus decumana* (the pomelo or shaddock). *Feronia Elephantum* (wood-apple) and *Ægle Marmelos* (bael tree) are widely planted, as also are *Melia Azadirachta* (*nim*), the bark of which is used as a febrifuge, and *Melia Azedarach* or Persian lilac. *Zizyphus Jujuba* (*bor* or *ber*) is constantly seen; several species of vine, notably *Vitis carnosa*, are found in hedges, while the *Sapindaceæ* are chiefly represented by the *Cardiospermum Helicacabum* (balloon vine) and the widely-planted *Sapindus trifoliatus* (soap-nut tree). The island has long been famous for its superior varieties of mango (*Mangifera indica*); the *Anacardium occidentale* (cashew-nut), the *Spondias mangifera* (hog-plum), which has naturalized itself, and the *Spondias acuminata*, are all common; and specimens in abundance will be found of the *Moringa pterygosperma* (horse-radish tree), the fruits of which are sold as vegetables in the local markets.[1]

Several species of *Crotalaria* occur as weeds, notably *Crotalaria retusa* and *Crotalaria verrucosa*, which bear bright-coloured flowers, and *Crotalaria juncea* (sun-hemp), which yields a well-known commercial fibre. Among cultivated beans may be mentioned *Cyamopsis Psoraloides* (the *gaur*), *Phaseolus lunatus*, *Phaseolus Mungo* (*mug*), *Phaseolus radiatus* (*udid*), *Dolichos Lablab* (*valpapadi*), *Psophocarphus tetragonolobus* (*chaudhari*), and *Canavalia ensiformis*. Wild indigos, notably *Indigofera hirsuta*, appear in the uncultivated tracts; the *Abrus precatorius* (*gunj*), with red and black seeds, grows in hedges; the *Erythrina indica* (the coral-tree) is a brilliant sight in the hot weather; the blue and white *Clitoria ternatea* has run wild in hedge-rows; the *Inga dulcis* is a well-known tree, while both the *Poinciana Regia* (gold mohur tree) and the *Cassia Fistula* (the Indian laburnum) have been widely

[1] Subsequent to 1859 Dr. (now Sir George) Birdwood introduced several specimens of the genus *Boswellia* into the island from the Somali coast.

planted.[1] Many of the smaller species of Cassia are common weeds.

Fairly common also are the tamarind (*Tamarindus indica*), *Bauhinia purpurea*, the sweet-scented *Quisqualis indica* (Rangoon creeper); while several species of *Ammannia* are found in the swamps during the monsoon, the *Lawsonia alba* (*mendi* or henna) clings to the more salt and sandy soils, and in the ponds the *Ludwigia parviflora* and *Jussiæa suffruticosa* flourish.

In gardens and orchards the *Carica Papaya* is largely cultivated and occurs also in waste places, while among the Cucurbits grown for the sake of their fruits, which are largely used as vegetables, are the *Trichosanthes anguina* (snake gourd), *Lagenaria vulgaris* (bottle gourd), *Luffa ægyptiaca* (*Ghosali*), *Luffa acutangula* (*Dhodka turai*), *Benincasa cerifera*, *Momordica Charantia* (*Kareli*), *Momordica dioica* (*Kartoli*), *Cucumis sativa* (*kankurai*), *Cucurbita moschata* (*bhopla*) and *Cucurbita Pepo* (vegetable marrow).[2] *Oldenlandia* of more than one species appear in the fields to the north of the island, while the *Compositæ* are represented by a number of weeds, such as *Vernonia cinerea*, *Elephantopus scaber*, *Grangea madraspatana*, *Blumea amplectens*, *Epaltes divaricata*, *Sphæranthus africanus*, *Gnaphalium indicum*, *Cæsulia axillaris*, *Xanthium strumarium*, *Eclipta alba*, *Tridax procumbens* and *Launæa pinnatifida*.

Under other orders come the *Sphenoclea zeylanica*, an aquatic plant, *Ægiceras majus*, which clings to salt-water swamps, the *Mimusops Elengi*, cultivated for the sake of its fragrant flowers, and the *Salvadora persica*, which is common in salt land and is believed to be the Biblical mustard-tree. The gardens of the city contain the *Plumeria acutifolia* or *son champa* (stag-horn tree); the *Calatropis gigantea* (*rui*) is well-known; the *Dæmia extensa*

1 One of the first specimens of the Bengal or Royal Gold Mohur is stated to have been planted near Sewri on Waterloo Day, 1848. It grew very rapidly, being 8 feet high with a spread of nearly fifty feet in 1854. The species seems to have been first introduced into the island about 1840.—Bombay Times, August 24th, 1854 and June 21st, 1856.

2 See Maria Graham's Journal of a Residence in India, (1813, p. 24.)

climbs amid hedges and thickets ; a few species of *Erythræa* and *Canscora* put forth bright flowers ; the surface of ponds bears the *Limnanthemum cristatum* ; while one of the commonest small trees is the *Cordia Myxa*, the fruit of which is often pickled and eaten.

Among the commonest weeds are several species of *Heliotropium* and *Trichodesma*, and the *Datura fastuosa*, which grows in abundance ; the *Cuscuta* appears as a parasite on trees and shrubs ; while climbers of the order *Convolvulaceæ* are represented by *Argyreia speciosa*, *Ipomæa Bona nox*, *Ipomæa coccinea*, *Ipomæa Quamoclit*, *Ipomæa digitata*, *Ipomæa eriocarpa*, *Ipomæa reniformis*. *Ipomæa aquatica*, *Ipomæa campanulata*, *Ipomæa Turpethum*, and *Ipomæa biloba*, which is a sand-binding coast-plant. The *Solanum xanthocarpum* grows down to the sea-shore ; and the *Lycopersicum esculentum* (tomato), *Capsicum frutescens* (chili) and *Solanum melongena*[1] (brinjal) are all cultivated.

Many characteristic weeds belong to the *Scrophularineæ*, among them being *Linaria ramosissima*, *Sutera glandulosa*, *Lindenbergia urticæfolia*, *Stemodia viscosa*, *Stemodia serrata*, *Limnophila*, *Vandellia*, *Bonnaya* and *Scoparia dulcis*. The *Millingtonia hortensis* is planted, as also is the *Oroxylum indicum*, a small tree with broad sword-shaped fruits ; the *Pedalium Murex*, a yellow-flowered denizen of grassy lands, is used for medicinal purposes ; the *Hygrophila spinosa*, a handsome blue-flowered shrub, clings to damp soil, and the *Asystasia violacea* is often seen in hedgerows. Widely distributed also are the *Haplanthus verticillaris*, certain kinds of *Justicia* and *Rungia*, the *Lippia nodiflora*, appearing on the banks of pools, and the *Lantana Camara* which has become a pest. Several gardens contain the *Duranta Plumerii*, and the *Tectona grandis* (teak), *Gmelina arborea*, *Vitex Negundo* and several kinds of *Clerodendron*, both wild and cultivated. On muddy tidal-banks flourish the *Avicennia alba* and *Avicennia officinalis* (white mangroves), and the *Acanthus ilicifolius* or blue-flowered sea-holly.

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[1] See Maria Graham's Journal of a Residence in India (1813), p. 24 :—" The fruit is as large as a baking pear, and is excellent either stewed or broiled. The natives eat it plain boiled, or made into curry."

The *Labiatæ* supply such plants as *Ocimum canum*, *Ocimum Basilicum*, *Ocimum sanctum* (*tulsi*), *Pogostemon parviflorus*, *Salvia plebeia*, *Nepeta ruderalis*, *Anisomeles ovata*, *Leonurus sibiricus* and several kinds of *Leucas*; one or two kinds of *Boerhaavia* are ubiquitous; and under *Amarantaceæ* fall the *Celosia argentea*, *Digera arvensis*, *Amarantus spinosus*, *Achyranthes aspera* and *Alternanthera sessilis*. Several species of *Loranthus* prevail as destructive parasites on trees; the *Euphorbia*, *Acalypha* and *Phyllanthus* are not uncommon in one form or another; the *Putranjiva Roxburghii* is planted; and the *Ricinus communis* (castor-oil plant) and *Jatropha Curcas* (purging-nut) are ubiquitous, the former growing spontaneously and the latter being planted on the boundaries of compounds.

Among fig-trees the species most in evidence are the *Ficus Bengalensis* (banian), planted on road-sides, the *Ficus religiosa* (pipal) and *Ficus Rumphii*. The *Artocarpus integrifolia* (jack-tree) is grown for its fruit, and good specimens of *Artocarpus incisa* (bread-fruit tree) are occasionally seen. The *Casuarina equisetifolia* is planted; while among aquatic plants, other than the few already recorded, are *Hydrilla verticillata*, *Vallisneria spiralis*, *Ottelia alismoides*, *Potamogeton* and *Utricularia*. The large family of Orchids is very poorly represented, *Saccolabium Wightianum*, one of the few epiphytic species, and *Habenaria commelinifolia*, which springs up during the rains, being the only notable kinds. A few *Curcumas* and the *Costus speciosus* also flourish during the monsoon.

Of fruits there are several varieties of plantains, notably the large red kind, moderately palatable pinet apples, which would repay more careful cultivation, and one or two species of *Dioscorea* or yam, one of them—*Dioscorea sativa*—being a monsoon hedge-climber. A magnificent lily, the *Gloriosa superba*, flowers in hedges towards the close of the monsoon, and many species of *Commelina* appear in weed-form all over the island.

Excluding numerous kinds acclimatized and planted in gardens, the palms of the island include the *Areca Catechu* (*Supari*), *Caryota urens* (Fish-tail palm), *Phœnix sylvestris* (wild date), *Borassus flabellifer* (fan palm), and

Cocos nucifera (cocoa-nut palm).[1] The Bulrush tribe is represented by the *Typha angustata*, and the Arum tribe by the *Cryptocoryne*, *Amorphophallus campanulatus*, *Amorphophallus commutatus*, *Colocasia* and *Alocasia*. *Lemna* (duckweed) covers the surface of many a pond, while such sedges as *Kyllingia*, *Pycreus*, *Juncellus*, *Cyperus*, *Eleocharis*, *Fimbristylis* and *Scirpus* are fairly representative of the *Cyperaceæ*.

Lastly among the *Gramineæ* must be reckoned the cereals *Panicum*, *Crus galli*, *Oryza sativa* (Rice), *Zea Mays* (Maize), the wild grasses, *Paspalum distichum*, *Paspalum sanguinale*, *Eriochloa polystachya*, *Panicum colonum*, *Setaria intermedia*, *Saccharum spontaneum*, *Apluda varia*, *Andropogon halepensis*, *Andropogon squamosus*, *Anthesteria ciliata*, *Cynodon Dactylon*, *Eragrostis amabilis*, *Diplachne fusca*, and various cultivated species of Bamboo.[2]

Liquor-yielding trees.

The liquor-yielding trees of the island are the cocoanut palm or *mad* (*Cocos nucifera*), the brab or *tad* (*Borassus flabelliformis*) and the date-palm or *shindi* (*Phœnix sylvestris*).[3] Of these the first named is the most pro-

[1] See Maria Graham's Journal of a Residence in India (1813); Forbes' Oriental Memoirs, Vol. I, p 24, 29 *et seq.* (1766). Mrs. Elwood (Narrative of an Overland Journey, 1830) also mentions these palms, and the tamarind, plantain, bamboo, banian and pipal. She elsewhere enumerates the goldmohur, oleander, *Hibiscus*, the Malabar and Ceylon creepers, a few China and other rose-trees, the *Gloriosa superba*, the jasmine, Indian fig, *Palma Christi* or *Ricinus communis*, the milk-bush, the nim, and the babul; and among vegetables and fruits, onions, sweet potatoes, yams, brinjal, bhendi (*Hibiscus esculentus*), cardamoms, custard-apples, shaddocks, pomegranates, water-melons, guavas and jack-fruits. See also Ives' Voyages (1773); Asiatic Journal and Monthly Register, 1838. Other kinds of palms, which are now grown in the Victoria Gardens, are *Areca lutescens*, *Arenga saccharifera*, which supplies sugar and an inferior kind of sago, *Cocos plumosa* from Brazil, *Cocos Weddeliana* from South America, *Dictyosperma* of two species, *Elæis guineensis* from West Africa, *Howea Forsteriana* and *Howea Belmoriana* from Lord Howe island, *Hyophorbe amaricaulis* from Mauritius, *Livistona* of various kinds, *Martinezia caryotæfolia* from New Grenada, and other species from California and the Pacific Islands.

[2] Further remarks on the plants, trees and ferns of the island will be found in Warden's Report of Landed Tenures, p. 25; Times of India of 12th December 1883; Times of India of 23rd July 1880; Times of India of 28th February 1860.

[3] Other palms occasionally found in the island are *Cocos sobolifera*, *Phœnix dactylifera*, *Areca catechu* (the betel), *Oreodona regia*, a brazilian tree to be seen in the Victoria Gardens, *Hyphæne*

ductive, as it is also the commonest, there being approximately 100,000 cocoa-nut trees in Bombay. The area under palms is 870·7 acres. They are very numerous on the western side of the island, the soil in these parts being sandy and therefore well suited to their cultivation. The usual method of starting a cocoa-nut garden is to plant about 40 large unhusked nuts at the depth of one foot in a specially-prepared bed, which is thoroughly soaked with water for three or four months. Considerable labour is saved by planting the nuts at the commencement of the monsoon. The seedlings appear at the end of this period, and remain undisturbed for two years, after which, at the commencement of the monsoon, they are transferred to sandy soil and planted two feet deep in rows 12 to 18 feet apart. A space of about 15 feet is left between each two plants. The ground around each plant is hollowed to a depth of 12 inches and is enriched once a year, during the monsoon, with either fish manure or cowdung or a mixture of the latter and bitter oil cake. A tree planted near the seashore or on low ground grows to a height of about 80 feet and lives for roughly a hundred years, while those inland attain a greater age, but are less lofty and less productive. The presence of brackish water and abundance of fish manure ensure a vigorous tree. As a rule no tree yields nuts until it is ten years' old, nor is it tapped until that period has expired; but once it has been cut a healthy tree will give a daily supply of juice for about 40 years and yields about a hundred nuts. Various are the uses to which the cocoa-nut tree is put. Its juice, consumed to some extent in its primary condition, is converted into liquor at the local distilleries[1]; the kernel of the nuts is largely used in culinary preparations; the oil extracted from the older nuts is used as a hair-wash;

Thebaica, the curious branching Egyptian palm to be seen in Sewri and on Malabar Hill, *Corypha umbraculifera*, a native of Ceylon and Southern India, which grows in the compound of the Grant Medical College, and *Rhaphis flabelliformis*, a small Chinese palm which has long been an inhabitant of Bombay Gardens. See Bombay Gazetteer, Vol. XXV, pp. 370 and 371.

[1] The name toddy is often wrongly applied to the juice of the cocoanut and rightly refers only to the juice of the brab. The true name of cocoa-nut liquor is *madi*.

its leaves are utilized for thatching huts, the shell of the nuts as fuel, and the fibres of the husk in the preparation of coir; while when no longer capable of yielding fruit or toddy, the wood makes excellent water pipes.

Agricultu

To judge from Fryer's account, the greater portion of the island must have been under cultivation in 1675;[1] but the credibility of this view is to some extent discountenanced by the amount of quit-rent payable under Aungier's Convention,[2] and it seems reasonable to suppose that during the troublous years immediately succeeding the marriage of Charles II with the Infanta of Portugal a certain amount of land fell out of cultivation. The extension of the cultivated area at any rate seems to have been one of the chief objects of the Company's policy, for in 1679 they urged upon the Council at Surat the need of improving "a considerable quantity of ground on each side the Company's garden which Mr. Petit while Deputy-Governor converted into sugar-cane fields"[3], and about the same date demanded also that the uncultivated area should be surveyed, drained, rendered fit for agriculture and leased out in order to partly defray heavy Civil and Military charges.[4] By the close of the seventeenth century a certain amount of progress was discernible. People had been encouraged to settle and cultivate the soil; a certain area had been assigned to the Company's Gentu (Hindu) soldiers, who paid a half share of the produce of the soil to Government; while the cultivation of cocoa-nut and date palms and of several varieties of vegetables and fruit was largely practised. The mangoes of Bombay, which had been very carefully nurtured by the Portuguese, still maintained their standard of excellence, but the production of staple crops was disappointing.

At the commencement of the eighteenth century the recovery of lands liable to inundation was prosecuted more earnestly, and resulted in the provision and cultivation of "the old salt batty grounds", reclaimed by

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[1] Fryer's Historical Account, quoted in Chap. I, *supra*.

[2] Warden's Report on Landed Tenures, p. 27.

[3] India Papers. Court's letter of March 19th, 1679-80 to Surat.

[4] Warden's Report.

means of the dam at Sion and Dharavi, and of "the new salt batty grounds", which owed their existence to the rough dam constructed prior to the Hornby Vellard. By 1725 the yield of rice had from these causes greatly increased, while the number of palms in the island was estimated at 110,000. Then followed a cycle of bad years. In 1731 the rain-fall was very deficient; in 1733 the Kunbis emigrated in large numbers to Salsette in consequence of the prohibition of fish-manure; in 1736 a plague of caterpillars damaged the island's crops, and in the following year there was serious drought.[1] Grose, referring to the island about this date (1750), stated that the bulk of the proprietors and cultivators were "Roman Catholic Mestizos and Canarins. The first are a mixed breed of the natives and Portuguese; the others purely aborigines of the country converted to what the Portuguese call the faith. The other landowners are Moors, Gentus and Parsis; but these last are of more modern date, having since purchased on the island." In speaking of the land he adds that it was chiefly "employed in cocoa-nut groves or oarts, rice-fields and onion grounds, which are reckoned of an excellent sort on this island. The cocoa-nut groves or oarts make the most considerable part of the landed property, being planted whenever the situation and soil are favourable to them."[2] Sixteen years later (1766) Forbes recorded the fact that "each spot that will admit of cultivation and is not occupied by houses, is sown with rice or planted with cocoa-nut trees," but added that the island was so rocky, so circumscribed and so unequal in level that it could not produce sufficient grain for the population in any one year[3]. Statistics of cultivation during this period are not available; but it appears that in 1780 the total outturn of rice was about 3,400 *mudas* (one *muda* = 2400 Bombay *sers*), of which 1,100 came from the Bombay district and 2,300 from Mahim.[4]

During the early portion of the nineteenth century the

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[1] Bombay Gazetteer Materials, Part III, 517.

Grose's Voyage, 45-48.

[3] Forbes' Oriental Memoirs, I, 22.

[4] For details see Bombay Gazetteer Materials, Part III, 452, 454.

expansion of the town commenced to set a limit upon the progress of cultivation. About the date of Heber's visit (1838) the area of rice-land was still considerable, but between 1835 and 1850 it gradually decreased from 167,435 *burgas* (one *burga* = 60 square yards) to 165,000 *burgas*. Garden cultivation however still maintained its popularity, as at the date (1813) when Mrs. Graham saw acres of land covered with brinjals and other vegetables. The economic progress of the town however eventually curtailed the area of garden-land, much of which was absorbed during the latter half of the nineteenth century by railways, roads and buildings.

According to the census of 1901 the population engaged in purely agricultural pursuits numbers 2,330, while the total area at present (1909) under cultivation measures 2690·31 acres (including grass lands) distributed as shown below :—

Nature of Land.	Area in acres.
Waste or grass	359·90
Growing cocoa-nut and other palms ...	870·70
Garden (fruit, flowers, vegetables) ...	746·43
Rice	477·22
Crops other than rice	236·06
Total ...	2690·31

Rice is the staple crop of the island and is grown in such areas as are still unoccupied by houses or cocoa-nut plantations, namely between Sion and Matunga on the east of the railway, and in the Dadar, Varli and Mahim sections. Two modes of rice-growing prevail in Bombay, the *lavani* and *rohachi lagvad*. The former and commoner method consists in the transplantation of seedlings, the latter in sowing seeds that have sprouted. The soil and seasons are well-suited to the crop, but its cultivation is not regarded with as much favour as the cultivation of cocoa-nut palms, being more expensive and in the end much less profitable than the latter. Artificial irrigation

of rice is unknown in the island. Some rice lands are used for tending vegetables in dry reason. The garden lands are mostly in Sion, Matunga, Sewri and Parel.

Birds.[1] The list of such birds as are common visitors to, or residents of, the island is a large one, containing, as it does, a large proportion of the birds common to the neighbouring districts of the mainland. The jungle crow (4) and house-crow (7) are sufficiently well-known to require bare mention; the rufous-tailed babbler (113) or *satbhai*, the white-eye (226), and the common iora (243) are familiar to naturalists; as also are the flights of chloropsis (248, 252) which haunt the wild fig-trees and the bulbuls (278, 289 and 305) which frequent the gardens. Conspicuous too are the drongo (327), several species of warbler, shrike, and oriole, the rose-coloured starling (528) which visits the Fort when the *Erythrina indica* is in flower, and four species of myna. The fly-catchers are represented by three distinct species and share possession of the island's gardens with the bush-chat (608, 625), red start (644), Indian robin (662), magpie robin (663) and blue rock-thrush (693); the baya (720) exhibits its peculiar nests on many a tree[2]; while the sparrows (775, 776) vie with the crag-martin (811) and the swallows (813, 818 and 823) for possession of the city's buildings. Five species of wagtails visit the island, in particular the gray (832) and gray-headed (833) species, as also do the pipits (840, 847) and five species of lark, the commonest representatives of the latter being the Indian sky-lark (861) and the ashy-crowned finch-lark (879). Familiar too are the sun-birds (894, 895, 901), Tickell's flower-pecker (919), and the various wood-peckers, barbets including the "coppersmith" (1019) and bee eaters.[3] The family

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[1] This list was supplied by Mr. C. A. Comber. The figures in brackets refer to the "Fauna of British India" (Birds). See Mr. E. H. Aitken's Common Birds of Bombay.

[2] For a description of these nests see Forbes' Oriental Memoirs, Vol. I.

[3] A specimen of the common Wryneck (*Lynx torquilla* 1003) was shot near the temporary Port Trust Office in the new Docks in September 1906. This is the only recorded instance of its appearance in the neighbourhood.

of kingfishers sends three well-known representatives and also occasionally the rare three-toed kingfisher (1040),[1] and a glimpse is sometimes vouchsafed of the Indian hoopoe (1067). Swifts, the Alpine (1068), Indian (1073) and palm-swift (1075) are as common as the night-jar (1091) and the various members of the cuckoo family, among the latter being the *koel* (1120) with its persistent note. Another regular resident is the concal or crow-pheasant (1130).

Although the blossom-headed paroquet (1139) and the loriquet (1150) have only occasionally been seen, the rose-ringed paroquet (1138) is one of the commonest urban residents,—more familiar even than the screech-owl (1152) and the spotted owlet (1180). Among larger birds must be mentioned the osprey (1189), black vulture (1191), long-billed (1194) and white-backed (1196) vultures, scavenger vulture (1197), white-eyed buzzard-eagle (1220), white-bellied sea-eagle (1224) and more than one kind of kite, harrier and falcon. The last named, though seen at times near the Oval, usually frequent the low-lying open ground in Byculla and Parel. The blue rock pigeon (1292) swarms in the town with its semi-domesticated relatives, the spotted dove (1307) and the little brown dove (1309) are both well-known, while among birds that visit the less frequented northern areas of the island are the common quail (1355), rain quail (1356), rock bush-quail (1357), painted partridge (1373) and bustard-quail (1382). Rare also are the lesser florican (1416)[2], and the bronze-winged (1428) and pheasant tailed (1429) jacanna[3], which haunt the tanks or marshy parts of the island during the monsoon; while the water hen (1401) and the coot (1405) are not often seen, though they are common enough in the immediate neighbourhood of Bombay. The sociable lapwing (1437) and the eastern

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[1] A specimen of this bird, now in the Natural History Society's Museum, was caught in the Government Dockyard.

[2] One of these was shot in 1888 near the Mahalakshmi race-course.

[3] These birds were seen in numbers during the monsoons of 1900—1903 between the Grant Road and Mahalakshmi Stations of the B. B and C. I. Railway.

golden plover (1439) have been recognized,[1] and each succeeding winter brings the little ringed plover (1447) to these shores, in company with the sea-pie (1450) and the curlew (1454).

The common sandpiper (1460) haunts the tanks and the sea-shore, and is as frequent a visitor to the Yacht Club lawn as the leaders of Bombay society; but its brethren, the wood sandpiper (1461) and the green sandpiper (1462), rarely quit the shelter of the more secluded tanks and ditches. The redshank (1464) and greenshank (1466) love the more marshy areas, while among snipe the common or fantail (1484), the pintail (1485), the jack (1487) and the painted snipe (1488) are still to be seen near the mangrove-swamps or low-lying tracts in the north of the island.[2] The gulls are a numerous family, ranging from the great black-headed (1489) and brown-headed (1491) gulls to the gull-billed tern (1499), crested tern (1501, 1502) and white-cheeked tern (1508).[3] The little cormorant (1528) is more frequently seen than the booby or brown gannet (1530) which is usually driven in by stress of weather; but the common heron (1555), the cattle egret (1562) and the reef-heron (1563) are regular visitants, having escaped the persecution which has decimated the little egret (1561), once so common in all parts of the island. A large tamarind in Marine Lines was at one time the yearly nesting-place of the pond heron (1565) which now frequents more open localities, and many a resident has caught the unmistakeable cry of the night-heron (1568), sailing under cover of darkness across

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[1] A flock of some 20 or 30 sociable lapwing frequented the Oval from December 1899 to February 1900. They were quite tame and had probably been driven to Bombay by the presence of famine in their usual haunts. A flock of golden plover was seen on the Flats in 1877 by Mr. J. D. Inverarity and another flock in 1883 on the site of the present race course. Journal, Bombay Nat. Hist. Soc. II, 44.

[2] Until a comparatively recent date the common and pintail snipe were sufficiently numerous near the race-course and in the north of the island to justify shooting. But the numbers have greatly decreased. Mr. Comber records the appearance of a snipe near Dadar station in February, 1906.

[3] Mr. Comber records having caught a specimen of the Panayan Tern (1513, *Sterna anæstheta*) on a steamer in Bombay harbour in December, 1899 This is the only recorded instance of its appearance in Bombay.

the Apollo Bandar to the mainland. But the last-named bird is now as rarely seen as the bittern (1574) which may once have been a regular visitor.[1] Ducks of various species are found about the harbour but do not appear to settle on the island, with the single exception of the whistling teal (1589) which is visible any morning on the more secluded tanks.[2]

Reptiles and Molluscs.

Though sea-turtles, the green and the logger head have been seen on the shores of the island, they are nothing like so well-known as the fresh-water turtle, *Trionyx leithii*, and fresh-water tortoise, *Nicoria trijuga*, which inhabit the cisterns and wells. Lizards, namely the house-gecko, garden-lizard, common skink, and sometimes also the *ghorpad* (*Varanus bengalensis*), are known to most residents, as also are various snakes, such as the blind snake, rat snake (*dhaman*), paddy-field snake, green keel-back, wart-snake, whip-snake, and sand-snake. The python, which is common in the Konkan, may occur occasionally, as also Russell's viper and the *phursa* (*Echis carinata*), while specimens of the cobra and *krait* (*Bungarus fasciatus*) have been killed about Malabar Hill and other less crowded spots. Sea-snakes belong roughly to four distinct species but have not so far been definitely classified.[3] To Batrachians belong the bull-frog,[4] the small water-frog, the tree-frog (*Rhacophorus maculatus*) and the toad (*Bufo melanostictus*).

The shell-fish of Bombay approximate in kind to those found in other parts of the Konkan, the chief edible bivalves being the mussel, cockle, *meretrix morphina*, *Meroë solandri*, *Chione pinguis*, *Chione radiata*, *Tapes malabarica*, *Donax incarnatus*, *Asaphis diphos* and *Anatina labiata*. The chief edible univalves are the *Turbo elegans*, regularly collected in Back Bay, *Purpura bufo* and

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Purpura carinifera (*bhikari*).[1] Several species of octopus and cuttle-fish are brought to market; but the oysters of the harbour are regarded with less favour than those found at Karachi, Verawal and Karwar. With the exception of certain kinds found only in the higher ranges of the Western Ghats, the land-snails, slugs and water-snails of Bombay are identical with the species common throughout Western India.

Wild Animals.[2]

Bombay is now so populous and so largely built over, that it offers no attraction to any animal except such as frequent human habitations. Thus monkeys (*Primates*) have not existed in a strictly wild state for several generations; but considerable numbers are kept as pets in confinement and, occasionally making their escape, live for a time at large in the neighbourhood of temples. The *Felidæ* are never seen[3] and n all probability the only member of this family of carnivora properly belonging to the island in old times was the jungle cat (*Felis chaus*). Amongst the *Viverridæ*, the small Indian civet (48) (*Viverricula malaccensis*) and the Indian palm-civet (51) (*Paradoxurus niger*) may occasionally be found in the northern portion of the island, while the mungoose (60) (*Herpestes mungo*) is of fairly frequent occurrence in Sewri, Sion and Mahim. Among *Hyænidæ*, the striped hyæna (66) (*Hyæna striata*) is a regular

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[1] In the vernacular the larger univalves are termed *kuba*, the smaller *kubi*, the bivalves *shipi*, and cowries *dukari*.

[2] The numbers given in brackets against various species refer to The Fauna of British India, Mammals.

[3] Forbes (Oriental Memoirs, I) mentions jackals, squirrels and hedgehogs as the only wild animals in Bombay in 1813, while Heber (1829) speaks of the occasional occurrence of hyænas only.

The Bombay Courier of 1st December 1829 records the sudden appearance of a tiger at Mazagon. The animal had apparently swum across the harbour and landed near the ruined Mazagon Fort, and thence was driven to the compound of Mr. Henshaw's bungalow, where he was eventually shot by the guard of the dockyard and certain Arabs. He measured 8 feet 8 inches.

On the 2nd March, 1858, the crew of the Steamer 'Aden' killed a large tiger in the harbour, which was swimming across to Mazagon from the opposite shore (Bombay Times, March 6th, 1858); and on the 26th January, 1863, another tiger was killed in Mahim after wounding a Parsi oart-owner and committing other damage (Times of India, January 27th, 1863). On the 7th February 1859 a six-foot leopard appeared in a lane near Kalbadevi road and was shot by Mr. Forjett, Commissioner of Police (Bombay Times, 8th February, 1859).

resident of the southern portion of Salsette, but hardly ever ventures into Bombay in these days[1]; but the *Canidæ* are well represented by the jackal (69) (*Canis aureus*), which frequents certain portions of Malabar Hill and the north of the island. Of the *Soricidæ* the commonest representative is the grey musk shrew or "musk-rat", (118) (*Crocidura cœrulea*), which is found in most houses.

Bats of various kinds are common, notably the fruit-bat or flying-fox (134) (*Pteropus medius*) ; the short-nosed fruit-bat (138) (*Cynopterus marginatus*) ; the horse-shoe bat (150) (*Rhinolophus affinis*) ; and the bi-coloured leaf-nosed bat (166) (*Hipposiderus bicolor*) which haunts Sewri fort. To these may be added the Indian vampire (169) (*Megaderma lyra*) ; Kelaart's bat (186) (*Pipistrellus indicus*) ; the pipistrelle (187) (*Pipistrellus abramus*) ; Dormer's bat (193) (*Pipistrellus dormeri*) ; *pipistrullus mimus* (187*a*) ; and the yellow bat (194) (*Scotophilus kuhlii*). In all probability members of the *Emballonuridæ* family, which are common in the Konkan, will be found in Bombay.

The common Rodents include the striped squirrel (253) (*Sciurus palmarum*)[2]; the long-tailed tree-mouse (270) (*Vandeleuria oleracea*), discovered at Mahim ; the common Indian rat (272) (*Mus rattus*) and the brown rat (274) (*Mus decumanus*). The latter is not indigenous, but was introduced from ships many years ago and has succeeded to a large extent in ousting the Indian rat. The soft-furred field-rat, (290) (*Mus mettada*), the field-mouse (287) (*Leggada buduga*), and the spiny-mouse (289) (*Mus platythrix*) also occur, but are not so common as the ordinary house-mouse, the mole-rat (295) (*Nesocia bengalensis*) which frequents the low-lying tracts, and the bandicoot,

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[1] A large hyæna was killed in a garden at Mazagon in 1814. (The Bombay Courier, July 11th, 1814). The Times of India of 3rd September 1808 records the appearance of a hyæna in October 1803 in the compound of Randall Lodge occupied by General Bellasis. It probably came from Malabar Hill.

[2] A new species was recently described by Mr R. C. Wroughton under the name *Funambulus Pennantii*, and to this section belongs the striped town-squirrel. It was formerly classed as *Sciurus palmarum*, which is also common in the less inhabited parts of Bombay.

which haunts the grain godowns of Mandvi. The black-naped hare (319) (*Lepus nigricollis*) still appears in Bombay at intervals, but will probably disappear entirely in the course of the next few years.[1]

Domestic animals.

The chief domestic animals, horses, cattle and goats, are only imported into Bombay and are not bred within the island. Buffaloes, for example, are imported for milch-purposes from Gujarat, the Gir in Kathiawar, Delhi and Hansi in the Punjab, and when out of milk are usually sold at once to make room for fresh arrivals. There being no regular cattle-market in Bombay the *gaulis* or milkmen usually travel to Ahmedabad and other centres to replenish their stock and pay prices varying from Rs. 100 to Rs. 300 for a good milker of recognized breed. Fifteen years ago the price of a Gujarat milch-buffalo ranged from Rs. 75 to Rs. 125, but has now risen to an average of Rs. 100 to Rs. 150. A Gir buffalo fetches Rs. 175 on the average and a Delhi buffalo Rs. 150. A Gujarat buffalo gives daily from 8 to 12 seers of milk, and remains in milk for about nine months; a Delhi buffalo gives from 10 to 16 seers daily and remains in milk for fifteen or eighteen months; while a Kathiawar buffalo gives from 10 to 18 seers daily and remains in milk for about twelve months. Most of the milch-cattle in Bombay are very highly fed and are kept in large stables, the owner of which charges monthly from Rs. 2 to Rs. 3-8 for every buffalo and about Rs. 2 for every cow; and these stables which were at one time crowded amid the more densely-populated quarters of the city are now being removed to more open areas in Byculla, Parel and other northern divisions of the island.[2] As with buffaloes, so with cattle importation takes place chiefly from Gujarat and Kathiawar, and also from Karachi and the Deccan. The greater portion of the Bombay milk-supply is obtained from buffaloes, but the European population evinces a strong predi-

[1] Dr. Hové (Travels, 1787) mentions that he started a hare near Malabar Hill, "as large as an European one." One was reported as having been seen in November 1906.

[2] In 1866-67 Dr. Hewlett, Municipal Health Officer, made a sustained attack upon the owners of milch-cattle, in consequence of the filthy condition of their stables; and land was acquired by the Municipal Commissioner near Grant Road for the erection of public milch-cattle stables.

lection for cow's milk which has not so strong a flavour as the milk of buffaloes. The best milch-cattle are those from the Gir with large round foreheads and curiously-curving horns; but most cows from Kathiawar are good milkers, giving from 10 to 12 seers daily and continuing in milk for 12 or 18 months. The price of a Gir cow averages Rs. 150. The Karachi cow, which is now seldom seen in Bombay, is also a good milker and costs about Rs. 100. The Gujarat cow gives daily from 7 to 9 seers and continues in milk for 6 or 8 months. In Gujarat, where the pasturage is good, she usually gives about 2 seers more daily than in Bombay, the milk being whiter in colour than that of a Karachi or Kathiawar cow. The average price of a Gujarat cow is Rs. 100. The Deccan cow is undersized, vicious and a poor milker, and is therefore rarely found in Bombay dairies. It is most difficult to rear young buffalo-calves in Bombay, and about 95 per cent. of them die as a result of a somewhat unnatural life and of a grain-diet. The calves of cows on the other hand thrive well in the city. The milch-cattle in Bombay are as a rule kept constantly stalled, owing to the absence of pasture-land; but they nevertheless keep tolerably healthy, if properly fed and tended. Cases are known of animals living for six and nine years in the same stable without ever being indisposed.

Bullocks, which are yearly imported to the number of about 5,000, come principally from the Deccan and Berar and are used for draught purposes.[1] Some also come from Khandesh, Gujarat and Mysore, those from Vadial, Kankrej and Palanpur State being considered the best. Some years ago the average price of a first-class bullock ranged from Rs. 50 to Rs. 100, while at present it ranges from Rs. 75 to Rs. 150. The price varies according to breed, a Deccan bullock being often purchased for Rs. 50, a Khandesh bullock for Rs. 80, a Mysore bullock for Rs. 100 and a Gujarat bullock for Rs. 150.[2]

[1] Up to the nineteenth century cattle-chaises were largely used by the European residents of Bombay. In 1754 the East India Company allowed the Admiral in Bombay one pair of bullocks for his personal use (Ives' Voyages).

[2] For historical references to the cattle-supply, see Bombay Gazetteer, Vol. XXVI, Part III, pp. 508, 509.

The following table shows the number of licensed cattle stables and of the animals in them during the last seven years :—

Year.	No. of buffalo stables.	No. of buffaloes.	No. of bullock stables.	No. of bullocks.
1902—03	98	8,883	58	2,187
1903—04	93	10,300	62	2,421
1904—05	91	9,587	45	2,541
1905—06	96	10,528	45	3,029
1906—07	92	12,220	48	3,631
1907—08	84	13,147	56	4,370
1908—09	88	14,882	61	5,407

There are two buffalo-*davnis* and one bullock-*davni* in the city, the former being situated in Falkland road and DeLisle road, and the latter at Haines road. In these places a cattle-bazaar is held daily, the animals being bought and sold by brokers and the owners of the *davnis* receiving a commission on the sale-price. No auction sales are held. The number of bullocks in Bombay City is estimated at 20,000, the majority of them being housed in private or unlicensed stables. The commonest forms of disease among cattle are tumours, sores, abscesses on the neck, horn-disease, foot-disease, foot and mouth disease, rinderpest, mammitis and tuberculosis. Of these rinderpest and foot and mouth disease occur almost every year. When an epidemic occurs the Municipal Commissioner opens a contagious hospital for cattle and appoints qualified veterinary graduates to superintend it.

Horses.

Anderson notes in his *English in Western India* that several attempts were made during the 17th and 18th centuries to introduce a breed of English horses into Bombay, but that the efforts failed owing to the difficulty of keeping the animals alive during the long voyage to India.[1] By 1800 the importation of horses from the Persian Gulf had become a recognised item in the trade of

[1] Bombay Gazetteer, Vol. XXVI, Part III, 507.

the port, and auction sales, at which big prices were paid, were often held under the Tamarind Tree on the old Bombay Green.[1] The horses now imported into Bombay are mostly Arab, Australian and Persian, with a certain number of English, and the very large trade which is carried on within the city appears to have had its origin in a veterinary and livery stable opened by one George Higgs in Girgaum on the 18th May 1811.[2] Up to that date and for some little time afterwards the number of horses imported cannot have been very great; but by 1839 stables had arisen in Bhendi Bazaar (Parel Road) and neighbouring areas,[3] and every year parties of Arabs, bringing horses and grey-hounds for sale, were accustomed to establish themselves in a kind of gipsy-encampment near the old race-course at Byculla.[4] In the middle of last century most of the horses required for the army in Bombay and Bengal were purchased in the Arab stables of Bombay. The importation of Australian horses dates from about the year 1847 and was not at first very popular owing to the fact that the horses were coarse, wild and long-legged; but gradually a class of middlemen sprang into existence in Australia which purchased the young stock from breeders, handled and trained them and then sold them to shippers for the Indian market.[5] At the present (1909) date two firms, Messrs. Scott & Co., and the Bombay Stable Company, import most of the "Walers," which

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[1] Bombay Courier, 1801. The horses sold at these auctions are described as "Arabs, Kandahari, Kathiawadi, Mocha, Cutch and Sindi." In 1800 the Bombay Turf Club started a sweepstake for two, three and four year old colts and fillies, in the hope that this would "encourage the breeding of horses by gentlemen in Bombay and its dependencies which may ultimately tend to reduce the extravagant prices at present demanded for horses imported from the Persian Gulf, etc."

[2] Bombay Courier, 1811.

[3] Bombay Times, 1839, contains advertisements of Arab horses for sale at Nasarvanji Manekji's stables.

[4] Mrs. Postan's Western India, I, 33. Pegu ponies are mentioned as being sometimes procurable at this date, but at a high price. Lady Falkland (Chow-chow I, 5,6) speaks of the horse-bazaar, "where in the cool of the evening the picturesquely clothed Persian and Arab dealers sit in the open air, sipping coffee and smoking with their friends."

[5] Times of India, 3rd March 1887.

are drawn from New South Wales, Queensland and Victoria, while Messrs. Anderson & Co., and three native firms import the Arabs, which vary considerably in breed from the Nejd and Iraki to the rather inferior Gulf Arab. Australian horses are imported practically all the year round, but the import of Arabs lasts only from October to February in each year.

The average number of "Walers" annually imported is 3,000, and the average price of a horse ranges from Rs. 500 to Rs. 600. A special class are selected and purchased for Government by the Remount Department which pays an average price of Rs. 675 per horse. Excluding Government, the largest wholesale purchasers until a recent date were the late Bombay Tramway Co., Ld., who sometimes paid an average price of Rs. 600 per horse. The average was subsequently reduced to Rs. 500 for a horse and Rs. 400 for a galloway. Arabs are imported to the number of about 3,000 every year, and reach Bombay *via* Bagdad and Basra. The ordinary well-bred animals average between Rs. 800 and Rs. 1,000 in price, but small Arabs can be purchased for Rs. 500 and Rs. 550. Racers, chargers and animals selected by Government for stud purposes have a special value.[1] Persian horses from Shiraz, if of decent breed, fetch from Rs. 500 to Rs. 600, the ordinary price being about Rs. 400, while a few Syrian horses from Damascus sometimes find their way into Bombay and are sold at a cheaper rate. English and Hungarian horses are also imported, the former both for racing purposes and private use and the latter for domestic use, the average price for a horse of Hungarian breed being Rs. 800. Small batches of country-bred horses from Kathiawar, Marwar, the Deccan, the Punjab and Baluchistan are sometimes seen in Bombay, but do not command a great sale, the average price of a Kathiawari being Rs. 150. The same may be said of the "stud-bred" horses, that is animals got in India by English and Arab sires out of mares of the above-mentioned breeds. Good horses of this

[1] In 1838 a good hack cost £50 and £150 was considered a fair price for an Arab colt of promise. (Postan's Bombay and Western India.)

type fetch from Rs. 400 to Rs. 500 at the large horse-fairs in Northern India. The late Bombay Tramway Company worked several hundreds of animals of this type with excellent results. About 45 per cent. of all the horses imported into Bombay are sold for private domestic use, from 5 to 10 per cent. of Arabs and a smaller percentage of Walers are sold for racing purposes, and the remainder are taken by the Government Remount Department and by Native States. Of late years the price of horses and ponies has increased, one of the highest prices ever paid being Rs. 13,000 for an Arab racing-pony. The export trade in horses is small. A few Arab stallions annually journey to England and Australia for stud purposes and a few for general use to East Africa and Zanzibar.

The following table shows the imports of horses, donkeys and mules into Bombay during the ten years ending 1905-06:—

—	Arab.		English.		Waler.		Austro-Hungarian.		Country Bred.		Northern.	Persian.		Burman.	Others.		Donkeys, Mules and Zebras.			Total.
	Horses.	Ponies.	Horses.	Ponies.	Horses.	Ponies.	Horses.	Ponies.	Horses.	Ponies.	Horses.	Horses.	Ponies.	Ponies.	Horses.	Ponies.	Donkeys.	Mules.	Zebras.	
1896-97	2,131	665	45	15	..	..	73	5	151	202	175	334	..	..	(1) 2,033	(2) 65	50	288	..	6,232
1897-98	1,263	123	79	14	1,015	61	21	5	17	8	1	118	..	19	1	..	42	22	..	2,809
1898-99	1,490	842	36	29	1,192	164	8	..	29	14	16	76	..	1	..	..	8	..	...	3,905
1899-00	1,333	822	34	7	1,545	132	13	..	32	33	7	146	..	5	2	..	1	..	...	4,112
1900-01	1,561	862	17	11	1,738	119	98	1	38	23	19	144	10	1	1	..	6	176	..	4,825
1901-02	1,802	927	16	2	1,396	298	31	4	48	17	7	206	11	4	5	7	5	267	2	5,055
1902-03	1,808	786	99	16	1,476	142	70	..	60	28	...	333	24	7	4	..	..	627	2	5,482
1903-04	3,723	361	51	13	2,518	158	51	..	66	13	..	462	..	9	8	8	36	768	6	8,251
1904-05	2,912	313	70	36	2,522	281	164	..	68	22	..	579	..	17	16	3	54	2,268	4	9,429
1905-06	2,274	242	51	14	2,424	257	11	..	44	48	10	383	3	6	2	..	8	5	..	5,782

1 Include 1985 horses imported from Australia.

2 50 ponies were imported from Australia.

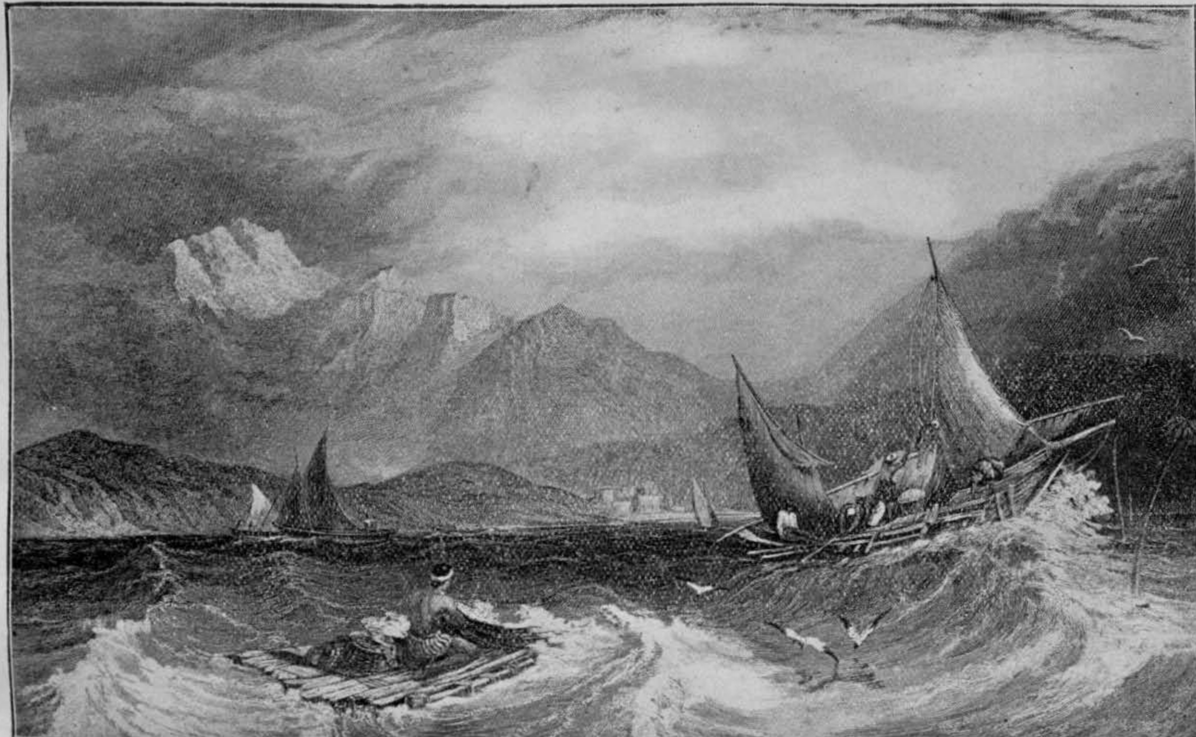
The total number of horses belonging to private individuals and taxed under the Municipal Act is about 4,500, including 200 ponies, while the total number of licensed stables and of horses in such stables during the last seven years is shown in the subjoined table:—

Year.	No. of Stables.	No. of Horses.
1902-03	78	3,740
1903-04	77	4,055
1904-05	77	5,104
1905-06	80	5,013
1906-07	73	5,820
1907-08	70	5,574
1908-09	71	5,674

In addition to the usual diseases common to horses both glanders and farcy and surrah appear in Bombay from time to time in epidemic form. The Glanders and Farcy Act is worked by the Principal, Bombay Veterinary College, with 6 Inspectors and 7 Police Constables. The Inspectors have power to seize and destroy horses which are certified by the Principal, Assistant Principal or Chief Veterinary Inspector to be suffering from glanders, lymphangitis epizootica and surrah. A lazaretto is maintained at Sewri for the segregation of sick horses and the cremation of carcasses.

Other animals.

Mules from Sind and the Punjab are occasionally seen in Bombay, the average price of the former being Rs. 75 and of the latter Rs. 100; while donkeys are so few as to be hardly worth notice and usually are only brought into the island for carrying purposes by persons employed in the construction of railway-embankments and similar works. A few goats of common breed are privately kept in the city, but most of the sheep, which come from Marwar, Ahmedabad and the Deccan, as also the small and inferior kinds of cattle, are only imported for slaughter. A goat from Surat or Marwar costs from Rs. 12 to Rs. 15, while the price of a sheep varies from Rs. 6 to Rs. 8. Dogs, chiefly terriers of various kinds, are constantly imported from England, and Japanese and Chinese spaniels, while cats of the Persian, English and Indian breeds are often to be found for sale in the Arab stables or the Crawford Market.



From *Hindusian Illustrated*, 1845.

VIEW OF BOMBAY HARBOUR IN MONSOON IN 1845.

The ordinary bazaar-cat is small and short-haired and subsists by scavenging.

No cattle-shows are held in Bombay, but a horse and dog-show is held annually upon the Oval in the month of February.

Fish and Fisheries.

Bombay has been famous for its fish-supply from the earliest days and fishing was one of its chief industries during the pre-British epoch. Not only the harbour yielded a supply in early times, but also the ponds and tanks of the island, which have for the most part been filled up as the building-area extended.[1] During the 18th century a head-tax was imposed upon each Koli for the right of fishing, but was subsequently withdrawn, their hereditary right of fishing in the deeper waters of the harbour being at the same time confirmed. In 1844 fees for wharfage at Mody Bay were levied upon the Kolis and in 1884 orders were issued by Government for regulating the location of fishing-stakes and nets and for preserving unobstructed the fairway into the harbour.[2] The Kolis alone follow the occupation of fishing and bring their catches into the Bombay markets from Colaba, Chaupati, Mazagon, Varli, Sion, and from Danda, Bandra, Virar, Vesava, Kurla, Thana, Bassein and Uran in the Thana and Kolaba Collectorates. The market price of fish varies according to size and is higher during the monsoon-months, when the local supply is limited and supplies packed in ice are imported by rail from Billimora and other towns in Gujarat. The local supply during the fair season is more plentiful during *Udhan* or high tide than at *Bhang* or low tide. *Udhan* and *Bhang* occur twice in each month, the former lasting for eleven days and the latter for four days on each occasion.

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[1] Ives (Voyage to India in 1751) writes :—" At a little distance from the front of this house is a capacious basin of water, which for the greater part of the year is perfectly dry, but during the continuance of the rainy season and for some time after serves as a pond for watering cattle and swarms with a species of fish about 6 inches long and not unlike our mullet. The natives catch them in great plenty soon after the rain sets in." The Bombay Courier of August 5, 1797, mentions the fact of fish being caught in pools on Bombay Green (now Elphinstone Circle).

[2] Government Order (Marine Department) No. 47 of 27-8-1884.

The following is a list of the chief fish caught in Bombay and neighbouring waters :—

Vernacular Name.	Scientific Name.	Season when caught.
Gol	Sciæna glaneus ...	March - May. Sept-November.
Sarange (Pomfret) ...	Stromatæus cinereus	March - May. Sept-November.
Ravas	Polynemus Plebeicus ...	March - May. Sept-October.
Halva	Stromatæus niger ...	March - June. Sept-October.
Towar	Cybium Kuhlü	March - May. Sept-February.
Kati	Engraulis Hamiltoni	
Kalan	Arao Plotosus... ...	June-September.
Lanja	RhinobatusGranulatus	Sept-October.
Bendev	Macrones Vittatus ...	,, ,,
Vagha	Scoruber microlepidotus.	,, ,,
Bailung	Monacanthus choirocephalus.	,, ,,
Kattate	Engraulis Purava ...	,, ,,
Mori	Gobius	March - June. Sept-October.
Murdi (Lady-fish) ...	Sillago Sihama ..	June-September.
Tol	Hemiramphus Xanthopterus (?)	,, ,,
Shingada	Arius	March-May.
Tamb	Lutianus	March - June. Sept-October.
Bombil (Bombay duck)	Harpodon Nehereus...	March-October.
Chor Bombil	Saurida	July-September.
Lemti	Platophrys	,, ,,
Gomeri	Pristipoma Guoraka...	March-June.
Dara	Polynemus Sexfilis ...	May - June. Sept-February.
Dhoma	Sciæna Vogleri ...	May-June.
Mandili	Coilia Dussumieri ...	May - June. Sept-October.
Palla	Clupea Ilisha	Aug-February.
Dangul or Falai ...	Trachynotus	Aug-September.
Pimpal or Chand ..	Drepane Longimania	,, ,,
Boga	Trichiurus Muticus ...	,, ,,
Chiri	Upeneoides Sulphureus.	November-May.
Kavla	Psettius Argenteus ...	June-October.
Ghora	Triacanthus	Sept-October.
Vakti	Trichiurus Savala ...	,, ,,
Pakhat (Sting-ray and Devil-fish.)	Trigon Uarnak and Dicerobatis Erigoodoo.	March - May and Sept-October.
Jitara	Lates Calcarifer ...	March - May and Aug-October.
Khekdi Makol } (Cuttle fish.) Bhendu Makol }	Sepia Officinalis ...	Sept-October.

The commonest fish are the *bombil* (*bumbelo*), which when dried becomes the famous "Bombay duck" (*Kadi* or *Sukha bombil*) [1] and which is sold at the rate of one to six for a pice; the pomfret, a delicate fish which varies in price from 2 annas to one rupee per pair; [2] the *gol*, which is something like coarse cod and varies in price from Rs. 1/8 to Rs. 5 apiece; the *boni* (small mullet) and Pilsa or Mangan (large mullet) which are plentiful throughout the year; lobsters, crabs, prawns (*Kolambi*) and shrimps (*ambar*). The oysters of Bombay are not well thought of; but the *sumeri*, which resembles mackerel and is at times sold for Rs. 2 apiece, and the sole (*jiptu*) which is rather scarce, are in great favour.

From time to time whales have appeared in the neighbourhood of the island. One was sighted off Malabar Point in 1848,[3] and in the following year a dugong or sea-cow drifted ashore dead just opposite Colaba Church. [4] In April 1906 a whale, 63 feet in length and apparently belonging to the Greenland species, drifted ashore at Bassein in the Thana District. [5] Sea-snakes are common in Bombay waters,[6] and prior to the building of the causeway, Colaba was famous for turtles. The latter are now practically never seen, their last appearance having been recorded in Back Bay prior to 1873.[7] In Back Bay

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[1] Yule's Hobson-Jobson. Fryer's New Account. The Abbé de Kloguen who visited Bombay in 1827 speaks of "Des pamphlets et des bumblos, poissons que l'on ne trouve qu'á Bombay et qui sout tres délicats et estimés. Les premiers ressemblent á la sole ou á la plie." As a matter of fact the bommalo or bombil is found on all the coasts of India. Times of India, September 16th, 1893.

[2] Mrs. Elwood (Overland Journey, 1828) remarks:—"The Pomfret is remarkably delicate and fine upon this coast; and it was to eat the pomfret of Bombay that the epicure Quin seriously projected a voyage to India."

[3] Times of India, 13-5-1848.

[4] *Ibid*, 13-5-1849 and 16-5-1849. [5] *Ibid*, April 1906.

[6] "They are of various hues, mostly however of a bluish tinge, barred across with bands of deep blue. They are generally from 1½ to 3 feet in length. I have frequently found them on the Bombay beach sometimes alive. They are remarkably tenacious of life and survive a considerable time in spirits. In this variety I have been unable to discover poison-fangs, though the bite of some sea-snakes is believed to be deadly. They differ in appearance from the land and fresh-water snakes, chiefly in having the tail broad and flattened, so as to serve as an oar." (Journal of a journey, 1845-46, Bombay Times, 8th Aug. 1846.)

[7] Times of India, Jan. 13, 1873.

near low-water mark some varieties of coral have in the past been found, and in 1848 a correspondent of the *Bombay Times* drew attention to the presence of marine infusoriæ or zoophytes in the sea-water pools between the Cooperage and the Colaba Causeway.

The larger fishing-boats used by the Bombay Kolis are styled *machchva* and *balyav*, and the smaller boats *burakin*, *hodi*, *sipil*, *sipur*, *sandak*, and *toni*. There is a tendency however to characterize all fishing-boats under the generic term of *machchva*, which is a corruption of the Sanskrit *matsyavaha* (fish-carrier). The name is also loosely applied to passenger-boats and cargo-boats, and in Gujarat is a general term for small craft of 1½ to 10 tons. The average length of a *machchva* is 47 feet, its breadth 11 feet and depth 3 feet, and its tonnage ranges from 7 to 15 tons.[1] The timber used in the building of these boats is almost entirely teak, though occasionally some portions are made of the mango tree, silk cotton tree, jack tree and Pegu iron-wood tree; and they are built chiefly at Papdi near Bassein in the Thana District, a few being built at Manori near Bhayndar on the Thana Creek. They cost from Rs. 200 to Rs. 700 according to size and quality. The *machchva*, which carries a main mast and mizzen mast, is unencumbered with standing rigging and possesses no standing deck. Temporary decks are occasionally prepared.[2] The speed of a *machchva* is from 8 to 12 miles an hour, and the Kolis take them,

[1] For a full account of fishing-boats, nets, etc., consult the Bombay Gazetteer Volumes of the following districts :—Kolaba, Thana, Ratnagiri, Kathiawar, Kanara, Surat and Broach. See also "Native Craft of Bombay Harbour" by Commander Wilson, issued recently by the Bombay Port Trust; and the Times of India of 5-6-1850.

The following table gives the dimensions and tonnage of five smaller craft chosen at random :—

Length.	Breadth.	Depth.	Tonnage.
17′ 6″	8′	2′-5″	3·44
28′	6′ 9″	2′-3″	4·45
20′ 3″	11′ 8″	3′-4″	7·86
28′ 4″	10′ 5″	3′-7″	9·63
22′ 10″	12′ 4″	4′-6″	12·66

[2] See Kolaba District Gazetteer, p. 478.

when on fishing expeditions, about 30 miles from the shore. They usually sail northwards to Bassein and Bandora on these excursions. Occasionally they fish at as great a distance as 60 miles from shore. The Koli usually spends from 14 to 20 hours on a fishing expedition. The crew of his *machchva* numbers from 7 to 9 men and occasionally 12. On return the *machchva* is cleaned with salt water and rubbed over with coir. Sometimes the boat is oiled.

The medium-sized *balyav*, which is the "balloon" of early English writers, is now rarely seen in Bombay harbour; but there are, as mentioned above, various kinds of small boats which are known by the general appellation of *hodi*.[1] They range in size to as much as 40 feet in length with 8-foot beam, the average being 28 feet in length, 2 feet in depth, with a tonnage of $3\frac{1}{2}$ tons. They are constructed usually of mango or jack wood, and are either dug out or made of planks. They are worked and steered by paddles, and most of them are furnished with a bamboo mast and small sail. Balancing outriggers are used when the sails are furled. These boats are made at Bassein, Uran, Tarapur, Alibag and other places near Bombay, carry a crew of four, and are chiefly employed in attending to the nets at the fishing-buoys and stakes. The cost of a *hodi* complete averages Rs. 100.

The nets chiefly used by the Bombay Kolis are the *Dhol* (a large stake-net used in deep water), the *Bhokse* (a small stake-net for use in creeks), the *Jal* (a drift net resembling the English herring-tram), the *Divote* (a drift net), the *Vaghul* (a wall-net), and the *Phag* (a casting-net.)[2] Both the *dhol* and the *bhokse* are conical nets, the former being 120 feet long and 60 feet in diameter at the base, the latter about 40 feet by 20 feet. The *jal* and *divote* measure $240' \times 9'$, the former being used in catching the *ravas* (*Polynemus plebeicus*) and the latter for catching the *sarange* (pomfret) and the *halva* (*Stro-*

[1] For derivation of the names of the various small boats, see Thana Gazetteer, 711.

[2] See Bombay Gazetteer, XV. Part I, 301; Bombay Times, 5th June 1850.

matœus niger). Besides the above, a deep circular scoop-net with a handle, known as *asu*, and a semi-circular scoop-net with a handle, known as *jila*, are also used in Bombay. The *asu* measures from 3 to 7 feet in diameter, and the *jila* 3½ feet. The *phag*, which is furnished with sinkers of lead or iron, measures about 9 feet in length and 20 feet in circumference. The cost of the various kinds of nets is as follows :—*dhol*, Rs. 150 to Rs. 250 ; *bhokse*, Rs. 110 ; *jal*, Rs. 10 to Rs. 18 ; *divote*, Rs. 5 to Rs. 8 ; *vaghul*, Rs. 5 ; *phag*, Rs. 5 ; and scoop-nets from one to two rupees apiece. The meshes vary from one to two square inches in size ; the meshes of the *dhol* and *bhokse* near the bottom of the pocket being as small as ¼ inch square. The drag nets are used only in the monsoon and in deep water, and are dragged behind the boat about a foot below the surface of the water. They are raised every 20 or 30 minutes, and after being emptied are lowered for a fresh catch. The method of fixing the fishing-stakes is to hold them perpendicularly between two boats, carry a chain over the summit of the stake and then pull the ends of the chain downwards on either side until the stake is fixed firmly in the mud of the harbour.[1] Other methods of catching fish such as lines, angles, traps, etc., are unknown in Bombay ; but very occasionally use is made of the *khanda*, a long line or spillard with many hooks.

The treatment of fish after they are caught has of late years improved. Formerly salt-water only was used to keep the fish fresh ; but at present, particularly during the hot-weather, the Kolis make use of ice to prevent the fish being tainted. The average period between the catching of the fish and their reaching the shore varies from 3 to 6 hours but the period naturally increases in cases where they are caught forty miles or more from land. The only fish that reach the markets alive are lobsters, mullets and prawns, and on this account the Bohras have a predilection for these species believing that the fish should have its throat cut while alive (*halal karna*) in the same way as poultry and four-footed animals. Fish are never gutted

[1] For the method of fixing stake-nets see Kolaba District Gazetteer, pp. 475, 477.

and cleaned on board, but the larger fish are gutted directly they reach the shore, there being a large market for such guts. The smaller fish are not even gutted on reaching the market, it being left to the buyers to do this work for themselves.

Except in the case of the *bombil* and small fry there is little curing of fish in Bombay. The *bombil* are not gutted before they are salted and are simply hung up on strings in the sun for 3 or 4 days, after which they are ready for consumption as "Bombay duck." The small fry, sardines, shrimps, etc., are merely thrown on the sand to decompose and dry under the action of the sun, and are then sold as manure. Occasionally a few of the larger fish are salted and dried. They are first gutted, split and incised in the thicker parts, then well rubbed with salt and pressed for 24 hours, and are finally exposed for 15 days to the sun on matting or bamboo trellis-work. This process is however not very common, as the larger fish when dried do not keep in good condition during the monsoon. Canning and pickling on the western system is wholly unknown to the Bombay Kolis, but a few private persons occasionally pickle fish for their own consumption, first frying it and then preserving it in vinegar with the addition of tamarind, red chili powder and mustard.

Among the various classes resident in Bombay the Parsis are perhaps the greatest consumers of fish and as the supply is subject to considerable fluctuations[1] by reason of the influence of tides and ordinary climatic changes some of them, who own ice-factories in the city, have installed refrigerators in which the fish can be preserved for as long as six months.

[1] During the last 12 years the quantity and size of fish are said to have deteriorated. The reason is unknown to the Kolis who were consulted. Possibly the destruction of small fry in the creeks may have had some effect upon the supply. The subject is now under the consideration of Government. The dockworks, etc., on the east of the island and reclamation at Colaba have obliged the Kolis to fish further from shore than formerly.

CHAPTER III.

POPULATION.

Hindu Period.

Prior to the year 1661 no record exists of the numerical strength of the population of Bombay. But the researches of antiquarians and ethnologists, coupled with the evidence of ancient vernacular records, have disclosed certain definite facts regarding the classes which together composed the population of the island in the earliest times. It may be accepted without demur that the earliest inhabitants of Bombay were the Kolis [1], who belonged to the great family of Son-Kolis, the aborigines of the coast of Western India in contradistinction to the Mahadeo and other Kolis of the inland tracts and the fourfold tribe of Kolis in Gujarat. They settled in prehistoric ages on scattered portions of the seven islands which formed the nucleus of modern Bombay, built rude hamlets for themselves and earned a precarious livelihood by agriculture, fishing, and perhaps boat-building.[2] In its original form their religion was pure and simple Animism, coupled probably with the worship of the earth as universal mother,[3] and was gradually modified in later ages to accord with the religious ideas of Brahman immigrants, who, in return for their voluntary acceptance of Brahmanic theories, fashioned for them a spurious pedigree from one of the kings of the Lunar race. One of the most curious traits

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1 The name Koli has been variously derived from Kola (a hog); Kul (a tribe), in the same way as Kunbi from Kutumb (a family); and from the MundarHoro or Koro (man). But as the word Koli does not seem to occur before the Musalman period, and is disliked by the tribe in Rajputana and Northern Gujarat, it may very likely be a corruption of the Turki word *Kuleh* (a slave). See DaCunha's Origin of Bombay; Edwardes, Rise of Bombay; and the Imperial Gazetteer (Kolis).

2 For a fuller account of the early Kolis and their settlements, see Edwardes, Rise of Bombay, pp. 6 *et seq*.

3 In Bombay the personification of the earth-mother was Mumbadevi; and she is probably identical with Ekvira, whose well-known shrine stands just outside the Karli Caves, Poona District. The annual festival at Ekvira's shrine is always attended by a large number of Kolis and is primarily a Koli fête.

of the Koli community is their steady conservation throughout the past centuries of a physique which is wholly aboriginal in its rudeness and power, coupled with their faculty for borrowing the customs and nomenclature of later immigrants and invaders:[1] and the fact that, in spite of conversion to Christianity and of their forming a portion of an urban population, exposed to all the disadvantageous influences of town-life, they have preserved their physical power intact, probably arises from their being numbered by hereditary instinct and right amongst those that go down to the sea in ships and have their business in deep waters.

Although no record of fresh colonization is forthcoming until the year 1294, it is a plausible supposition that the Kolis of Bombay met with many strangers during the rule of the Silaharas of Puri (810—1260), and that the large trade-connections which these chiefs maintained between their ports in the North Konkan and the outside world introduced into the island from time to time a considerable floating-population of traders and merchants, both Hindu and Musalman, Arab and Persian, and even Jew and Chinese.[2] The Walkeshwar temple at Malabar Point was built during this epoch, while the Silahara capital (Puri) was situated close to Bombay; and these two facts, in conjunction with the known Dravidian origin of the Silaharas, lend support to the view that the large Dravidian element in the population

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[1] As an example of his fact may be quoted the surnames "More" and "Cholke" in use among the Kolis, which are corruption of Maurya and Chalukya, and testify to the influence which the Kanarese Mauryas of Puri and their successors the early Chalukyas (A. D. 500—760) once wielded over Bombay and the North Konkan. Under Portuguese rule the mixture of primeval Animism and Brahmanism which formed the Koli religion was exchanged for a debased form of Roman Catholicism, which still exists among the Bombay Kolis. The Kolis of Danda near Bandora are the only body of these people who have never yielded to the demands of proselytism.

[2] See Bombay Gazetteer (Thana), Vol. XIII; Edwardes, Rise of Bombay, Chap. I. Ten thousand Persians and Arabs resided in Chaul; the Beni-Israel were settled in Navagaum (Kolaba Collectorate); the Parsis were already prospering in Sanjan; and Kayasths, the ancestors probably of the Kayasth Prabhus, were employed in the administration of the kingdom. Marco Polo speaks of robbers and corsairs in Bombay harbour at the close of the 13th century.

of Bombay, of which traces still exist, dates back to this epoch of Silahara dominion.[1]

The first definite account of immigration to Bombay belongs to the year 1294, the date of Bhimdeo's appearance on the island of Mahim. The most widely known Marathi account states that there came with the chief to Bombay 9 families of Yajurvedi Brahmans of the Madhyandin Shakha, 27 families of Somavanshis, 12 of Suryavanshis, 9 of Sheshavanshis, 5 of Panchals, 7 of Agris, 1 family of Dasa Lad, 1 of Visa Lad and 3 of Modh.[2] When read in conjunction with other vernacular records discovered by Mr. R. X. Murphy in 1836, this statement seems to show that Bhimdeo's entrance into Bombay roughly coincided with the settlement of the Palshikar Brahmans, the Pathare Prabhus, the Panchkalshis, the Vadvals or Malis, the Thakurs, the Bhois and perhaps a certain proportion of Agris.[3] The Bhandaris, in view of their connection with the cocoa-nut palm, probably arrived at an earlier date. Of the others the Palshikar Brahmans acted as priests and medical attendants to the general community,[4] the Prabhus represented probably the

[1] Such names as Nagpada and Agripada are obviously of Dravidian origin, *pada* or *padu* being the ordinary Kanarese word for a hamlet. Again early English writers like Downing (1737) speak of the lower classes of Bombay as Keneyreans or Kanorins, the latter word being also employed by Portuguese writers; and these words seem to bear a very strong affinity to Kanarese. It is also noteworthy that the earliest English code of laws (1670) for Bombay island was translated into the Portuguese and Kanarese languages only.

[2] Bimbakhyan, p. 108.

[3] Transactions of the Bombay Geographical Society, 1836-38, Vol. I; Edwardes, Rise of Bombay, pp. 27-35. It is however possible that the immigration of these castes took place prior to Bhimdeo's arrival *i.e.*, during the Silahara epoch.

[4] Murphy states (1836-38) that "Raghunath Joshi is in possession of an order from the Recorder's Court, dated 70 or 80 years ago, and bearing the Court's seal, from which it appears that they were then the only officiating Brahmins recognised by the British authorities in Bombay, and to this day several Purvoe (Prabhu) families employ individuals of this caste as priests."

(ii) Edwardes, Rise of Bombay, page 32, mentions a patent granted to the hereditary priests of Mahim, which in 1901 was in the possession of Chintaman Balambhat Nayak and Nilkanth Vithal Padhye, both Palshikar Brahmans. The patent was as follows:—

"Whereas Kashinath Gambha Naique, Vithal Naique, and Banna Paddia (Padhye) of Mahim, Brahmans, have for many years past been granted the office of Brahmans in

clerical and administrative element,[1] and the Bhandaris were employed in military service under a set of hereditary headmen known as Bhongles or trumpeters, but combined these duties (to an increasing extent as time went on) with that of tapping the toddy-trees and liquor-

the township of Mahim and its jurisdictions in performing the rites and ceremonies of marriage, administering physic to the sick, and doing and performing all other ceremonies relating to the said office, as appears to me by several orders, I have thought fit and do hereby order you the said Kashinath Naique, Vithal Naique and Banna Paddia, to continue in the said office of Brahmins, giving full power to act in the same and to perform all the rites and ceremonies of marriage, and to administer physic to the said inhabitants of the town of Mahim and its jurisdictions, prohibiting all persons whatsoever from molesting and disturbing you in the execution of the said office upon any pretence whatsoever.

"Given under my hand and sealed with the seal of the Court of Judicature of the Island of Bombay this 22nd of August Anno Domini, 1685.

J. VAUSE (VAUX).

STEPHEN COLT,

Secretary.

"I do hereby confirm and ratify Cassinath, etc., Brahmins in their offices, in ordering all the respective inhabitants of Mahim to pay dutiful respect suitable to their employs.

BOMBAY, this *29th October*, 1686.

JOHN WYBORNE.

"Upon the request of the within-named persons this is con firmed upon them.

BOMBAY CASTLE, *22nd June*, 1689.

J. CHILD."

(iii) In the present day many Palshikar Brahmans will be found in Government and other offices, and some have become pleaders, etc. Yet a considerable number still act as the hereditary priests of various communities in Bombay and Salsette. The compiler attended a Koli wedding in 1902 at which the two officiating priests were Palshikar Brahmans. Many of them will be found along the Thana coast, particularly in and around Kelve-Mahim in the Mahim taluka, Thana District.

[1] (*i*) Murphy writes (1836-38) of the Pathare Prabhus :—"The Pathany Purvoes claim descent from some Solar Xetry (Kshattriya) kings who fled from Pyetun (Paithan) or from Guzerat, and seizing upon a portion of the Concan established a principality, the capital of which was Mahim on this island. They disown the Panchkulseas (Panchkalshis) or carpenters as equals : but generally admit that the latter were formerly connected with this principality in some inferior capacity."

(*ii*) Edwardes' Rise of Bombay, page 33, shows that the original settlement of the Pathare Prabhus was at Mahim, and that they built there a large temple to Prabhavati, their tutelary goddess, which was subsequently destroyed by the Portuguese in 1519 and rebuilt about 1739.

distillation.[1] The Panchkalshis represented the industrial section of the community,[2] the Vadvals, Malis and Agris the agricultural,[3] while the Thakurs were petty military officials and the Bhois acted as menials and palanquin-bearers.[4] It is difficult to say from what portion of the Bombay Presidency these communities immigrated. The *Bimbakhyan* states that they arrived with Bhimdeo from Paithan, Champaner and other

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[1] (*i*) The Bhandaris derive their title from Sanskrit 'Mandarak' (a distiller), and probably combined military service with their hereditary occupation of palm-tapping. Their fighting instincts are proved by the fact that in the early days of the British occupation of the island they enrolled themselves into a militia armed with clubs and other weapons, and have always provided a certain number of members of the Police force in later days. In 1879 a body of them murdered a member of the Prabhu family of Gupte at Mahim. The Bhongles or Sardars of the community were Sheshavanshis, and acted as soldiers and petty officers of the forces of Bhimdeo. During the period of Muhammadan domination they usurped the sovereignty of Mahim for a period of about 8 years.—Edwardes' Rise of Bombay.

(*ii*) Murphy (1836 38) writes as follows :—"Of the Bhandaris the most remarkable usage is their fondness for a peculiar species of long trumpet called Bhongulee, which ever since the dominion of the Portuguese they have had the privilege of carrying and blowing upon certain state occasions. Fryer, in a letter written from Bombay between 1672 and 1681, describes the Bhandaris as forming a sort of honorary guard or heralds to the Governor; and even to this day they carry the Union flag and blow their immense trumpet before the High Sheriff on the opening of the Quarter Sessions. This singular privilege receives considerable illustration from a fact stated in the MSS. history that shortly before the Portuguese occupation of Bombay a race of Bhongules or trumpeters seized upon and maintained the government of Mahim to which Bombay and Salsette were then subject. This would appear to have been a dynasty of Bhandari princes, whose humble representatives are still to be seen blowing their trumpets and carrying their standards in the pageants of another royalty." Transactions of the Bombay Geographical Society, Vol. I.

(*iii*) Lady Falkland's Chow-Chow (1857), 103.

[2] The Panchkalshis, who call themselves Somavanshi Kshattriyas, settled in Parel, where they built temples to their family deities, Wageshwari and Chandika, and to Mahadeo. To this day they appear as expert carpenters, etc., and their industry has become proverbial. *Cf.* the Marathi proverb "Panchkalshiani kon mhanel alshi" (who can call a Panchkalshi idle).

[3] The Vadvals and Malis introduced many of the fruit and flower-bearing trees of Bombay, and conjointly with the Bhandaris planted Mahim and other parts of Bombay with cocoa-nut palms.

[4] The original settlement of the Thakurs was at Parel, where there is a well-known area still known as Thakurwadi. The Bhoi caste is very likely responsible for the word "Boy" applied by Anglo-Indians to their domestic servants. *See* "Behind the Bungalow" by E. H. Aitken.

places in Gujarat, while oral tradition and linguistic considerations, coupled with the possibility that Bhimdeo belonged to the family of the Yadavas of Deogiri, favour the view that they came from the Deccan.[1] The most plausible supposition is that, though a certain proportion of them did hail originally from the Deccan, they may have journeyed to Gujarat in the first place and thence to Bombay, their halt for a longer or shorter period in Gujarat being responsible for fresh accretions of emigrants possessing habits and customs more akin to those of Gujarat than to those of the Deccan.

Musalman Period, 1348-1534.

It may be safely assumed that on the defeat of the last Hindu chief of Bombay by the Muhammadans, the population of the island was composed mainly of the communities above mentioned. A certain proportion of Musalmans was probably also resident in Bombay ;[2] and after the definite establishment of Musalman rule at Mahim, a larger number of Muhammadans fared thither,

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[1] (*i*) Mr. P. B. Joshi writes :—"Though the language now spoken by the Prabhus, Panchkalshis and Bhandaris is Marathi, their home-tongue contains a large percentage of words borrowed from the aboriginal settlers, the Koli and Agri. The Palshikar Brahmans being by reason of their religious duties socially and intellectually superior to other castes, and being also in constant touch with religious Sanskrit literature, have not introduced into their home-speech so large a proportion of aboriginal words and phrases. And yet, even in their case, the language spoken by the oldest of their females differs widely from modern Marathi, and resembles in truth the language prevalent in the Deccan in the thirteenth century. The cause of the phenomenon is obvious. Bhimdeo's successor did not reign long in Bombay : for in the middle of the fourteenth century Moslem rule was firmly established in the island and remained unchanged till the advent of the Portuguese, During the whole epoch from Musalman to British rule, the people were practically cut off from all intercourse with their brethren in the Deccan and had consequently no opportunity of improving their language. It has thus preserved the character which it possessed at the hour of the exodus."

(*ii*) Murphy (1836-38) writes :—"Among the various dialects of Mahratta spoken in Bombay there is a peculiar one which, as it is spoken by the Native Christians of Salsette, Mahim, Matunga and Mazagon, must have been the dialect of this large body before their conversion from Hinduism by the Portuguese. This dialect enters very largely into the language spoken by the Kolis, the Bhongules or Bhandaris, the Palsheas, Joshis or Hindu doctors (the Palshikar Brahmans), the Pathany or Phathary Purvoes (Prabhus), the Panchkulseas, Wadavuls or Carpenters, which caste also take care of all the cocoa-nut gardens on the island."

[2] Bombay Gazetteer (Thana), Vol XIII, Part II, page 438. Edwardes' Rise of Bombay, page 47.

the bulk of them being probably the Nawaits or Naitias (*i.e.* Shipmen), who have now become merged to a large extent in the so-called Konkani Muhammadan community of Bombay.[1] These people are said to have been originally descended from Arab immigrants, who were driven to India in the eighth and ninth centuries and there intermarried with the Hindu women of the coast. By the year 1530 they were settled in Bassein as traders, having journeyed thither, as also to Bombay, from Surat, Gogha and other towns in Gujarat.[2] Their original settlement was on the island of Mahim ; but during the epoch of Portuguese dominion large numbers of Konkani Musalmans emigrated from the mainland to Bombay itself and founded a colony on land subsequently included within the Fort. Following at first the profession of shipmasters or *nakhodas* and sailors, the community gradually increased in numbers and importance, turned its attention to commerce and rapidly became the most influential Muhammadan sect in Bombay.[3]

Portuguese Period, 1534-1661.

The chief effects of Portuguese dominion were the conversion to Christianity of immense numbers of the lower classes of the population and the flight from the island of a considerable proportion of the upper classes, who regarded forcible conversion by the Portuguese religious orders with the utmost aversion and

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[1] The Konkani Musalmans fled from Madinah in consequence of persecution by Al Hajjaj (A. D. 700) to Kufah, whence they reached the shores of the Indian Ocean about A. D. 865. Those who settled on the Malabar Coast were known as Naitias or Nawaits, while those in the Konkan were called Konkanis, and those on the Coromandel Coast were called Bhatkole. Most of the Konkani Muhammadans are Sunni followers of Imam Shafai.

[2] Gujarat Musalmans by Khan Bahadur Fazlullah Latfallah. Garcia d'Orta, Colloquios de Simples, 212, 213.

[3] Edwardes' Rise of Bombay, 60-61. In consequence of the scare in Bombay arising from the war with Hyder Ali of Mysore and from Napoleon's offer to assist "le citoyen Tippu", coupled with the outbreak of the great fire in the Fort, the Konkani Musalmans in the Fort were given building-sites in old Nagpada and other localities to the north-west of the present Crawford Market. Again, when the infantry lines were constructed to the east of the Market, a large number of Konkani houses were removed to new streets north of Paidhoni.

horror.[1] Garcia d'Orta, who became the owner of the manor of Bombay in 1538, describes the island as inhabited by the Naitias or Moors, "who came from abroad and mixed themselves with the gentiles (Hindus) of this land;" by the Curumbins (Kunbis and Agris) "who cultivated the fields and sowed them with rice and all sorts of pulse;" by the Hortelaos (Malis) who tended the orchards; and by the Piaes (peons) or men-at-arms.[2] The latter were probably Bhandaris who during the early British period were spoken of as "being bred to arms from their infancy and having a courage and fidelity which may be depended upon."[3] He also mentions the Parus (Prabhus) "who collect the rents of the King and of the inhabitants and their estates, and are also merchants;" while the Baneanes (Banias), "who are such as fully accept the precepts of Pythagoras," the Coaris or Esparcis (Parsis), "whom we Portuguese call Jews," and the Deres or Farazes (Dheds and Mhars), "a people despised and hated by all," are described by him as inhabitants of the Bassein territory, which included Bombay. Neither the Banias nor the Parsi, so far as can be gathered from contemporary records, were actually resident upon the island: but the hereditary duties of the Dheds and Mhars must have rendered their presence absolutely necessary in both Mahim and Bombay.[4] The bulk of the population, which doubtless included members of the original

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[1] The course followed by the Portuguese religious orders is well described in certain State papers in the archives of Goa. All illegitimate and many legitimate children were seized and baptised; penalties were inflicted on any native suspected of concealing children; and the property of those who fled to avoid the seizure and conversion of their children was confiscated to the State. These actions resulted in the depopulation of a considerable portion of the Goa territories; and, although the account given in the State papers refers to Goa only, it is almost certain that similar tyranny was practised in Bassein and Bombay.

[2] Colloquios de Simples. Edwardes' Rise of Bombay, 73.

[3] They are also described in an old letter of the Bombay Government as having displayed "notorious courage and zeal in the defence of the island when it was invaded by the Sidi."

[4] Edwardes' Rise of Bombay, 74.—Garcia d'Orta adds the following to his description of the Dheds:—"They do not touch others, they eat everything, even dead things. Each village gives them its leavings to eat. Their task is to cleanse the dirt from houses and streets." The word "Coaris" for Parsis is probably a corruption of Goaris, which is another form of Goars or Guebres.

castes who immigrated with Bhimdeo, dwelt in Mahim, Parel and the other villages in the north of the island; for "the caçabe (town) of Bombaim" is mentioned by Antonio Bocarro as containing only "eleven Portuguese *casados* (married settlers) and some *naturaes pretos* (native blacks), making altogether seventy musketeers able to serve in war."[1] The majority of the native Christians, who formed so large an element of the population at the date of the cession of the island to the English, were drawn from the Kolis, Mhars, Bhandaris, Kunbis and Agris, though to a certain extent the higher classes also submitted to the yoke of Roman Catholicism.[2] But the paucity of population in 1661 and the comparatively small number of Prabhus and Brahmans in Bombay at that date were probably due to emigration forced upon the higher orders by the misplaced zeal of the Portuguese priests.[3]

British Period, Early Estimates, 1661—1675.

The earliest recorded estimate of population belongs to the year 1661, and is based upon Fryer's remark that in 1675 the population of Bombay numbered 60,000, "more by 50,000 than the Portuguese ever had; a

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[1] Livro das Plantas das Fortalezas, quoted by DaCunha, Origin of Bombay.

[2] Murphy (1836—38) writes :—"A very large proportion of the Kolis and Bhandaris are now merged in the Native Christian population of Salsette and Bombay, many of whom still retain the Hindu costume, some their original surnames and occupations, and all their original dialect." Trans. Bomb. Geog. Soc. Vol. I.

General Administration Report, 1872—73. "The island of Bombay and of Salsette in its neighbourhood early became fields of labour both to Jesuit and Franciscan missionaries, who, aided as they were by the direct interference of the Portuguese authorities, experienced so much success that about half of their population entered the Romish Church. The converts were particularly drawn from the Kuli fishermen, the Parvaris, Mhars, and the Kunbis or agriculturists."

Lady Falkland's Chow-Chow, 37, 38.

[3] S. M. Nayak (History of the Pattane Prabhus) states that forcible conversion to Christianity and other illiberal measures obliged many Prabhu families to fly from their Christian rulers and take refuge under the comparatively mild sway of the Marathas.

A letter dated Sake 1670 from the Sar-Subhedar of the Konkan to the Shrimant Peshwa at Poona states that "in the time of the late Portuguese Government the Brahmans were by that Government made to undergo compulsory labour like Culis, and as the Prabhus held appointments under it, the Brahmans naturally suspected them of bringing this about." Edwardes' Rise of Bombay, 100-101.

mixture of most of the neighbouring countries, most of them fugitives and vagabonds." [1] In view of this statement it has been generally understood that in 1661 the population numbered 10,000. It was composed of a few Portuguese of pure blood, like Dona Ignez de Miranda, the Lady of the Manor of Bombay; of the Topazes or Indo-Portuguese, a people of mixed European and Asiatic parentage, whom Dr. DaCunha described as "the hybrid product of the union of Portuguese with native women of low-class, possessing the good qualities of neither"; [2] and of Native Christians, resident chiefly in Cavel, Mazagon and Parel. In Parel and Sion resided "the Columbeens (Kunbis) who manure the soil" and "the Frasses (Dheds) or porters also; each of which tribes have a mandadore or superintendent, who gives an account of them to the English, and being born in the same degree of slavery are generally more tyrannical than a stranger would be towards them" [4]; while many unconverted Kolis and Bhandaris lived in Bombay proper, Mazagon, Parel and Varli. There were probably several Musalmans at Mahim, and a few Prabhus and Brahmans, who acted as clerks and interpreters. [5] One or two Par-

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[1] Fryer's New Account of East India and Persia. Edwardes' Rise of Bombay. Bombay Gazetteer, Vol. XXVI, Part III, 525.

[2] DaCunha's Origin of Bombay. Edwardes' Rise of Bombay. Subsequent to the cession, many of these men were enlisted as soldiers, thus forming the original nucleus of the Bombay Army.

[3] (i) DaCunha (Origin of Bombay) remarks that :—"Thousands of Indian families had been converted by the Portuguese to Christianity, and from these the early British Government drew their supply of clerks, assistants or secretaries. They were the first-fruits of the instruction and education imparted to them by the Portuguese priests at a time moreover when there was hardly a Moslem, Hindu or Parsi able to read the Roman characters. They were the early instruments for spreading the influence of the new rule among the natives of Western India or the first helpers in the expansion of the British power throughout the country."

(ii) The fear that they might be forced to renounce the Roman Catholic religion was one of the reasons given by the Portuguese Viceroy for not handing over Bombay to the English. "I see in the Island of Bombay" he wrote "so many Christian souls which some day will be forced to change their religion by the English. How will they allow Catholics to reside in their territories when they hand over Catholics in the Island of Anjuanne to the Moors?" Edwardes' Rise of Bombay, 98.

[4] Fryer's New Account of East India and Persia.

[5] Bombay Gazetteer, Vol. XXVI, Part I, 35. At the time of the cession the Bombay Council spoke of "a Portugal scrivan (clerk),

sis also may have been resident in Bombay in 1661, though their number did not appreciably increase till after 1670[1], when a gradual immigration of Banias from Surat,[2] of Armenians[3] and of Brahmans from Salsette[4] helped to swell the number of the population by 1675 to 60,000.

1715 By 1715 the population had, according to Cobbe,[5] dwindled to 16,000, and was composed chiefly of "Moors, Gentous (Hindus) and Portuguese and Cooley Christians, some converts which the Portuguese have made by marrying into their families, the better to ingratiate themselves with the natives." This estimate may conceivably have embraced only the southern part of Bombay: but on the other hand the ill-effects of a pestilential climate, coupled with the disorders ensuing from commercial rivalry and the hostility of the Marathas, the Mughals and the Portuguese, may well have produced a decline

Ramsimar (Ramchandra Shenvi) who is so necessary for his knowledge of all the affairs of the island by his so long residence here, that we are forced to make use of him, desiring your approbation."

A Resolution of February, 2nd, 1670 arranged for the appointment of Perbes (Prabhu clerks) for the justices.

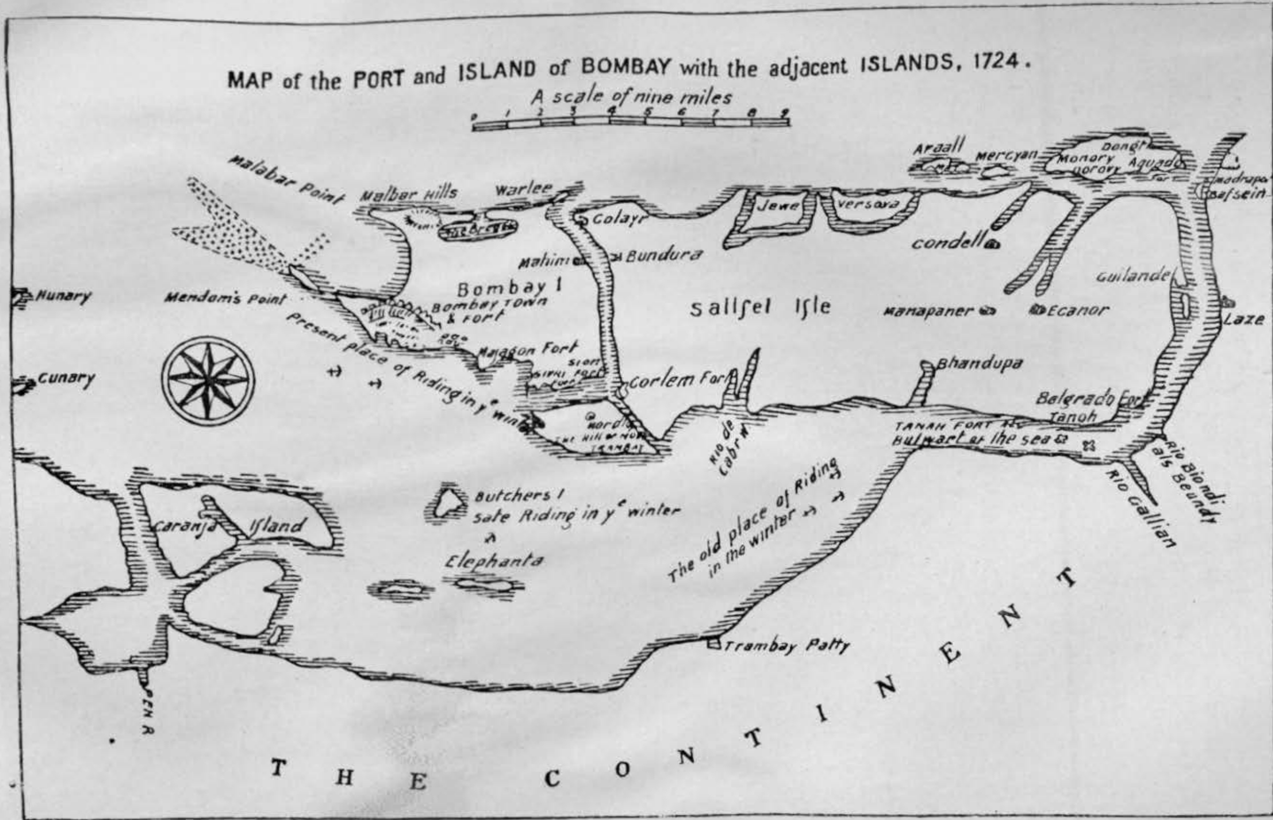
[1]Edwardes' Rise of Bombay. Tradition states that one Dorabji Nanabhai actually resided in Bombay during the Portuguese dominion and transacted miscellaneous business with the natives on behalf of the Portuguese authorities. He is said to have arrived in 1640 (Parsi Prakash I, 14). By 1674 a Tower of Silence had been built on Malabar Hill and an Agiari in the Fort, while one Cursetji Pochaji of Broach was employed in 1664 as a contractor on the fortifications.

[2]The chief Bania immigrant was one Nima Parakh of Diu, who "expressed his desire to settle with his family and trade on the island of Bombay, from the fame which he has heard of the Honorable Company's large commerce, upright dealing, justice and moderation to all persons that live under the shadow of their Government." Bombay Gazetteer, Vol. XXVI, Part I, 74.

[3]Bombay Gazetteer, Vol. XXVI, Part I, 56. The names of Khoja Karakuz, Khoja Minaz and Khoja Delaune are mentioned in letters from the Council at Surat. The Armenian has gradually disappeared from Bombay in favour of the Bania and Parsi, the only legacy of their former presence being the Armenian lane in the Fort. Edwardes' Rise of Bombay.

[4]On January 24, 1677 the Deputy-Governor and Council of Bombay wrote :—"Many families of Brahmans, daily leaving the Portuguese territory, repair hither frightened by the Padres, who upon the death of any person force all his children to be Christians. Even some of the chiefest who still live at Bassein and others build them houses here, therein placing their wives and children against a time of danger."

[5] Account of the Church of Bombay by the Revd. Richard Cobbe, 176.



MAP of the PORT and ISLAND of BOMBAY with the adjacent ISLANDS, 1724.

of population.[1] The communities mentioned in the documents of this period are the Moors (Musalmans),[2] the Callimbines and Bunderines (Kunbis and Bhandaris),[3] the Armenians, the Kolis, and the Parsis; while mention is made of Rashpout (Rajput) soldiers, Cofferies (Zanzibar slaves), and Hindu weavers.[4] Downing, who was in Bombay in 1715, remarks that "the original inhabitants were Keneyreans (Kanarese ?), a very inoffensive people though Pagans. They are of comely stature, well-shaped and very strong. They wear no clothes, only a piece of linen cloth and a flat cap on their heads. They are distinguished by several names : some call them Frost (Farash) or Coolley (Koli), which is the common name they go by among the English. The Frost eat no flesh but what dies of itself : for any sheep hogs or fowls that die of any sort of distemper, they will feed on as the finest well-fed meat whatever. So that when such accidents happen to the English, they send for some of them to take the same away; which they are very thankful for. They are very industrious and cleanly; for though they eat such unclean things, they wash'em first."[5]

The fall of Bassein in 1738, the close of the struggle between the Old and New Companies, a careful foreign 1744.

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[1] Edwardes' Rise of Bombay. Bombay Gazetteer, Vol. XXVI, Part I, 127. Sir John Gayer wrote in 1700 :—"They (the Portuguese) have stopped all provisions from coming to the island. All this puts the poor inhabitants into such a consternation that they think of nothing but flying off the island to save their little, for fear they should lose all as they did when the Sidi landed."

[2] Edwardes' Rise of Bombay, 135, 136. Bombay Gazetteer, Vol. XXVI, Part I, 64. When the hostility of the Portuguese reached a climax in 1676, John Petit took an armed force to Mahim composed partly of the militia of Bombay with 100 Bhandaris and 100 Moors of the island.

[3] *Ibid*, 136. Ensign Shaw was ordered in 1695 to allow the Kunbis and Bhandaris, living in the Addas (Wadis=Oarts), to play country-music. Advances of batty (14 mudas) were made to the Currambees (Kunbis) of all the alldears (villages) of the island.

[4] *Ibid*, 138. One standing company of Rajput soldiers was added to the garrison in 1684. An order of 19th September 1701 forbade Cofferies to leave the island by way of Sion, Mahim or Varli, in consequence of several robberies. A Government letter of 1686 mentions the arrival of many silk-weavers from Thana and Chaul, in consequence of Portuguese oppression.

[5] A Compendious History of the Indian Wars, Clement Downing. (1737).

policy and great progress in internal administration together helped to raise the population to 70,000 in 1744.[1] People were encouraged in various ways to immigrate from the mainland, among them being several Bhandaris from Chaul; many weavers from Gujarat, goldsmiths, iron-smiths, several Bhattias and Banias, Shenvi Brahmans and Parsis. The most noteworthy members of the last named community were Rustom Dorabji, afterwards appointed Patel of Bombay, and Lowji Nasarwanji Wadia, the master-builder of the Bombay Dockyard.[2] Two other communities, of whom special mention is made at this period, were the Vanjaras[3] and the Madagascar Cofferies or Slaves.[4]

Grose described the landed proprietors of Bombay in 1750 as being mostly Mestizos (Portuguese half-breeds)

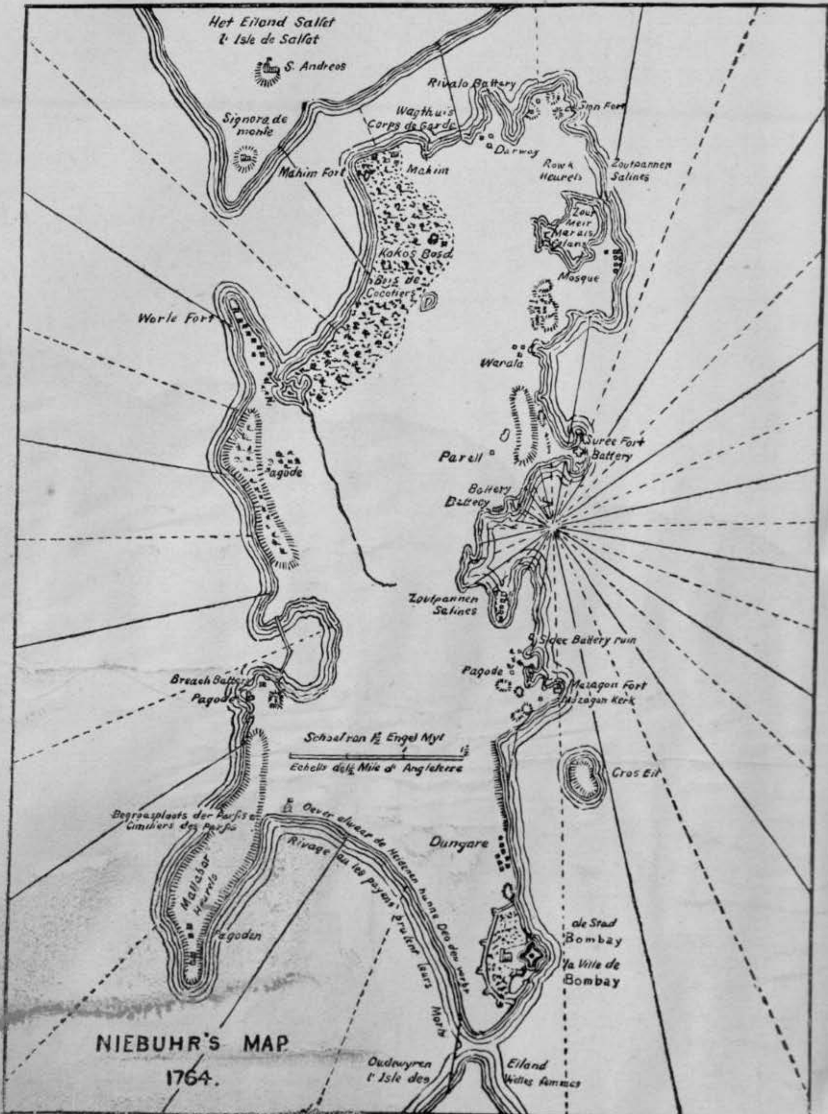
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[1] This is Niebuhr's estimate quoted by Da Cunha, Origin of Bombay, 348; Edwardes' Rise of Bombay; and James Douglas' Bombay and Western India.

[2] Edwardes' Rise of Bombay, 158-164. Many well-known families trace their ancestry back to men who settled in Bombay during the ten or twelve years preceding 1744: *e.g.* Muncharji Jivanji, ancestor of Sir Cowasji Jehangir, who built a special Tower of Silence for himself, which still exists in the grounds of a private house on Walkeshwar road; Cuvarji Cama, founder of the Cama family; Naoroji Manekji Sett, ancestor of the family which owns Naoroji Hill; and Babulshet Ganbashet, ancestor of Mr. Jagannath Shankarshet.

[3] *Ibid*, 160. The Vanjaras were described by the Bombay Council in 1742 as inhabitants of the Ghat country, who in the fair season resorted to Bombay bringing considerable sums of money, with which they purchased large quantities of goods. Any resident of Bombay who put them up during their stay in Bombay had to report the fact to the Governor and be responsible for their good behaviour.

[4] *Ibid*, 161. These slaves were either shipped to St. Helena and other places, or were enlisted as soldiers in the Bombay army. They and the slaves from Zanzibar have been largely responsible for the Sidi element in the modern population of Bombay. The slave trade continued in Bombay till about the middle of the nineteenth century. Fontanier (Voyage dans L'Inde) writing of them in the period 1835-44 says:—"Il y avait pour passagers quelques Persans et deux jeunes Abyssiniens. En nous enquérant de l'origine de ces derniers, il se trouva que c'étaient des nègres achetés à Bombay aux bateaux qui viennent des côtes de l'Afrique et ne manquent pas d'en apporter. On les débarque dans des palanquins en disant que ce sont des femmes, et la douane les laisse passer comme tels, moyennant un léger cadeau; s'ils sont d'un certain âge, on dit que ce sont des matelots ou des domestiques, et on les vend ou on les achète sans grande difficulté. On en expédie même une grande quantité dans l'intérieur."



NIEBUHR'S MAP
1764.

Het Eiland Bombay. || l' Isle de Bombay.

and Canarins,[1] mostly Roman Catholic converts, Moors, Gentoos (Hindus) and Parsis.[2]

According to Niebuhr the population was 140,000 in 1764, while the Historical Account of Bombay gives 60,000 as the total in that year. Both estimates are probably wide of the truth; for, although no decrease can have taken place since 1744, it is hardly likely that the population increased by as much as 70,000 in twenty years.[3] Immigration however was steadily proceeding, as is proved by an inroad of "400 other side (*i.e.*, across harbour) Kolis," of Kamathis, who were employed upon the fortifications and enrolled in 1757 into a militia, and of potters and tilemakers, whose business necessitated their removal to the suburbs in 1758.[4] Various orders regarding house-building, passed between 1746 and 1760, lend colour to the view that the population was expanding;[5] while a statement, drawn up by the Bombay Custom Master in 1759, showing the amount of grain and provisions upon the island, affords a glimpse of the various classes and castes then resident in Bombay. He apportions the stores among the following communities:— 1764.

Rugvedi Brahmans	Weavers	Tailors
Gujarati ,,	Pansilas (Panchkalshis)	Shoemakers
Yajurvedi ,,	Charsilas	Barbers
Shenvis	Bhandaris	Turners
Parbhus	Christians	Washermen
Banias	Parsis	Carpenters
Goldsmiths	Moors	Hamals
Coppersmiths	Potmakers	Sweetmeat-makers
Iron-smiths	Matmakers	Bombay Coolies
Bhansalis		Thana ,,

The strengthening of the garrison resulted in the introduction in 1752 of a company of Protestant Swiss soldiers, numbering 140 men.[6]

A special Committee was appointed in 1780 to enquire 1780
into the causes of the high price of grain and was fur-

[1] See footnote, page 152 suprâ.

[2] Grose's Voyage to the East Indies (1772).

[3] Edwardes' Rise of Bombay, 169-170; Bombay Quart. Review IX, 164.

[4] *Ibid*, 186. Bombay Gazetteer, Vol. XXVI, Part I, 320.

[5] *Ibid*, 188 *et seq*.

[6] *Ibid*, 187.

nished with a preliminary return of 47,170 persons, of whom 13,726 lived in Mahim and 33,444 in Bombay.[1] The details of the Bombay return were as follows :—

No.	Caste.	Men.	Women.	Children.	Slaves.	Total.
1	Rugvedi Brahmans.	40	42	46	19	147
2	Palshe Brahmans ..	60	67	49	13	189
3	Gujarati Brahmans.	72	42	31	...	145
4	Shenvi Brahmans ...	140	175	94	...	409
5	Prabhus	380	436	202	101	1,119
6	Goldsmiths	316	224	48	...	588
7	Banias	722	522	255	...	1,499
8	Coppersmiths ...	145	160	68	19	392
9	Weavers	151	172	90	22	435
10	Bhansalis	104	109	98	...	311
11	Carpenters... ...	125	168	71	7	371
12	Panch Kalshis ...	484	560	140	...	1,184
13	Chau Kalshis ...	86	104	38	...	228
14	Bhatias	108	74	84	...	266
15	Parsis	1,583	1,308	196	...	3,087
16	Ironsmiths	48	53	34	...	135
17	Bhandaris	677	820	357	...	1,854
18	Tailors	228	234	184	8	654
19	Sweetmeat-makers	9	7	2	...	18
20	Telara Kunbis ...	45	61	24	...	130
21	Kunbis	50	67	27	...	144
22	Kilme Kunbis ...	19	22	17	...	58
23	Surat Kunbis ...	22	10	7	...	39
24	Turners ...	38	40	19	...	97
25	Mat-makers ...	51	45	16	...	112
26	Tarias of Surat ...	17	9	4	...	30
27	Tarias of Bombay...	13	11	8	...	32
28	Moormen	3,035	3,953	1,347	...	8,335
29	Coolies of Bombay, Tanker and Mazagon.	1,089	1,417	808	...	3,314
30	Oilmakers	115	78	67	...	260
31	Golas	36	35	31		102
32	Pot-makers... ...	62	51	37	...	150
33	Barbers	88	41	20	...	149
34	Christians	......	...	...	...	6,960
35	Shoe-makers ..	63	57	25	...	145
36	Washermen ...	......	...	...	...	356
	Total ...	10,221	11,174	4,544	189	33,444

This return appeared to the Committee to fall short of the actuals, and as it was shown that no sepoys, labourers or others from the adjacent countries were included, the vereadores were asked to give their estimate of the population. They replied that "the least which ought to be reckoned for the district of Bombay

[1] Edwardes' Rise of Bombay, 192.

is 100,000." The Mahim return of 13,726 they imagined to be pretty just.[1] By 1780 therefore the Bombay population had increased to at least 113,726. The incompleteness of the above return is corroborated by the testimony of Edward Ives, who stated that the inhabitants of Bombay were numerous and made up of almost every nation in Asia.[2] The return of 13,726 for the Mahim district was made up as follows[3]:—

No.	Caste.	Men.	Women.	Children.	Slaves.	Total.
1	Rugvedi Brahmans... ...	17	18	16	8	59
2	Palshe Brahmans	15	21	13	3	52
3	Gujarati Brahmans ...	11	14	7	...	32
4	Shenois and Chittis (Chitpavans)	19	21	16	6	62
5	Prabhus	22	25	14	9	70
6	Goldsmiths	60	90	53	4	207
7	Banians	54	48	34	2	138
8	Bhansalis	30	30	40	1	101
9	Coppersmiths	6	18	21	...	45
10	Panch Kalshis of Parel ...	101	114	69	...	284
11	Agri Kunbis...	37	44	29	...	110
12	Kunbis of Nagaon... ...	36	50	26	...	112
13	Sion Coolies...	30	45	30	...	105
14	Kunbis of Matunga ...	61	82	45	1	189
15	Mahim Panch Kalshis ...	158	192	136	...	486
16	Kunbis of Sion	48	52	52	...	152
17	Agris of Thakurwadi ...	46	42	25	...	113
18	Bhoivada Kunbis	46	57	44	...	147
19	Mahim Sattas Coolies ...	17	25	12	...	54
20	Mahim Bhandaris	38	63	49	...	150
21	Kunbis of Siwri	16	18	16	...	50
22	Kunbis of Vadala	104	132	78	...	314
23	Bhandaris of Matunga ...	43	55	49	...	147

[1] Bombay Gazetteer, Vol. XXVI, Part III, 525.—Sir James Campbell suggested that the Tarias of Surat and Bombay (Nos. 26, 27), were Ferrymen. The Pinjaris or corders of cotton are Tarwalas and Taryas: but the most plausible explanation is that sometimes called the name signifies men of the Toddy-palm or Tadi-wallas. A Gujarat nursery rhyme runs as follows:—"Etla, etla Taria, Tar par chadia, Dhanji sathe ladia, Dhanji mari lath, Jaipadia Gujrath" which means "Little, litte Tarias climbed the Tar (toddy-palm) and fought with Dhanji; Dhanji gave them a kick and down they fell in Gujarat." The original toddy-drawers of Bombay were the Bhandaris; but by 1780 many of them had relinquished their hereditary calling in favour of military, police and other duties. The number of toddy-drawers may therefore have been augmented by immigrants from other places who not being pure Bhandaris would have been called Tarias or men of the Toddy-palm (Tar).

[2] Ives' Voyage to India in 1754. (London, 1773).

[3] Bombay Gazetteer, Vol. XXVI, Part III, 526.

No.	Caste.	Men.	Women.	Children	Slaves.	Total.
24	Carpenters of Mahim ...	21	27	10	1	59
25	Barbers	22	5	...	..	27
26	Kunbis of Khar	84	97	91	...	272
27	Siwri Coolies	53	53	47	...	153
28	Dharavi Coolies	27	32	34	...	93
29	Sion Bhandaris ...	43	52	30	...	125
30	Kilmekars	80	54	56	...	190
31	Chau Kalshis	33	47	35	...	115
32	Weavers	20	27	12	...	59
33	Kunbis of Bamnauli ...	19	21	15	...	55
34	Bhandaris of Mahim ...	43	53	46	...	142
35	Washermen	21	23	18	4	66
36	Warli Panch Kalshis ...	107	124	102	...	333
37	Tailors	20	32	14	...	66
38	Kitta Bhandaris	12	11	...	...	23
39	Bhatias	11	6	7	...	24
40	Moormen (see 49 below) ...	113	114	118	24	369
41	Moorish Weavers	123	124	73	8	328
42	Maguellas	64	73	59	...	196
43	Wool-makers	22	25	8	...	55
44	Mocry Coolies	13	17	14	...	44
45	Warli Coolies Pankars ...	296	302	204	...	802
46	Do. Thalwars	210	239	198	...	647
47	Turners	4	6	2	...	12
48	Shoe-makers	5	4	1	...	10
49	Moormen	136	168	72	30	406
50	Bhandaris Kate Kamle ...	32	36	18	.	86
51	Washermen of Parel ...	18	26	11	9	64
52	Christians	1,686	2,092	1,816	132	5,726
	Total ...	4,353	5,146	3 985	242	13,726

1812-14. Forbes remarked in 1784 that "he found the population of Bombay very much increased and constantly increasing. The troubles on the continent had compelled many to seek an asylum from the calamities of war; personal security and protection of property under the British flag was another great inducement; while a flourishing commerce and many other causes allured a number of merchants to leave their fluctuating situations in other places for a more permanent settlement on this little rocky island." [1] Other factors were also at work, in particular the great famine of 1802-04, which resulted in so large an influx that Sir James Mackintosh had no hesitation in fixing the population at 200,000 in 1806. [2]

[1] Forbes' Oriental Memoirs, Vol. III. 436.

[2] Douglas' Bombay and Western India, Vol. I., 96. Trans. Bombay Literary Society, Vol. I.

Mrs. Graham records that at the time of her visit to Bombay (1809) the island contained upwards of 200,000 inhabitants, of whom the Parsis numbered from 6,000 to 8,000, and the remainder were Portuguese and Hindus, with the exception of three or four thousand Jews, who long passed in Bombay for a sect of Muhammadans, governed by a magistrate called "the Cazy of Israel." Many of the latter were employed as sepoys in the marine, but the bulk were petty traders.[1] Captain Hall, R. N., referring to the year 1812, remarks that "Bombay, being the only perfectly secure spot in that quarter of India, had drawn to it in the course of years many of the native inhabitants together with much of the wealth of the adjacent countries. Each year brought fresh and more wealthy settlers, and every sea-breeze wafted into the crowded harbour of Bombay ships of every port from China to Peru. At the period I speak of (1812) the resident population was rather more than 160,000, though its numbers occasionally swelled to more than 200,000 at periods of public excitement or high commercial enterprise."[2] Elsewhere he gives the following details :—

"Hindus	103 786
Mussulmen	27,811
Parsees (worshippers of Fire)	13,156
Jews	781
Native Christians ...	14,454
Permanent Native Residents ...	159,988
Add to these the European residents and the European Officers and troops ...	1,700
Native Troops (officered by British) ...	3 000
And we have the average fixed population of the island ...	164,688
Add the migratory or floating portion of the natives, who come and go according to seasons and other circumstances.	52,012
The additional number of total strangers driven into the island by the great famine of 1812 and 1813 appears to have been about	20,000
Making a grand total of	...236,700[3]

[1] Journal of a Short Residence in India, (1813).

Life in Bombay (1852), page 45. The author states that a census was taken in 1812, which resulted in the enumeration of 200,000 souls This is probably a reference to the census mentioned by Captain Hall.

[2] Fragments of Voyages and Travels by Captain Basil Hall, R. N., (1832).

[3] *Ibid*, pp. 42-43. He adds :—"The area of Bombay island is about 18 square miles, being 7 or 8 miles long by 2 or 3 in breadth so that taking the ordinary or average population there are about

In 1813 a survey was made of the Fort population, which showed that 10,801 persons were resident within the walls. Of these 250 were English, 5,464 were Parsis, 4,061 Hindus, 775 Moors, 146 Portuguese and 105 were Armenians. Allowing twenty or thirty thousand to the Mahim district, it is probable that about one hundred and forty thousand resided between the Bazaar Gate in the south and Parel village and the Mahalakshmi temples in the north.[1] Warden puts the population in 1814 at 180,000, which probably does not include the floating population of that year, but may be accepted as a tolerably accurate estimate of the number of permanent inhabitants.[2]

Though famine was instrumental in temporarily augmenting the population between 1800 and 1814 (Sir James Mackintosh stated in 1804 that the monthly average of famine refugees relieved by the Bombay Government was 9,125), a considerable concourse of merchants arrived at this period and took up their permanent residence in the island. Among them were the Dasa Oswal Jains from Cutch, many Parsis, and several Muhammadans, notably the Memons who are described in a Persian pamphlet of 1818[3] as fuel-sellers, and the Khojas who were hawkers of parched rice. Thus Captain Hall was able with truth to write[4]:—"We can see nothing in China or Java or the Philippine Islands or along the Malay Peninsula, or even in the interior parts of India,

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9,000 residents for every square mile; while in times of pestilence and famine in the adjacent states, it reaches nearly to 13,000 for each square mile. The houses may be reckoned at more than 20,000; and there occurred frequent instances of fifty, sixty and even a hundred persons sleeping under one roof. I remember hearing of upwards of 300 persons being stowed away within the narrow limits of one building."

[1] Edwardes' Rise of Bombay, 238.

[2] *Ibid*, 214. DaCunha, Origin of Bombay, 348. Michael (History of the Municipal Corporation) speaks of a census of 1814-15 (an imperfect record) which gave 11,000 as the Fort population and 221,550 as that of the whole island. Houses numbered 20,786. The British, military, marine and civil, numbered 4,300; the Native Christians and Jews, 12,300; the Musalmans 28,000; the Hindus 103,800; and the Parsis 13,150. The floating population was 60,000. This census is quoted in Hamilton's Gazetteer.

[3] The *Jan-i-Bombai* (Soul of Bombay), written by an anonymous Mughal scribe. *See* Edwardes' Rise of Bombay, 236-237.

[4] Fragments of Voyages and Travels (1832), page 11.

no single caste or dress or custom or form of superstition nor anything else belonging peculiarly to Eastern manners, which we may not witness at Bombay in as genuine and apparently unsophisticated a condition as on the spot to which it properly belongs. In twenty minutes walk through the bazaar of Bombay my ear has been struck by the sounds of every language that I have heard in any other part of the world, uttered not in corners and by chance as it were, but in a tone and manner which implied that the speakers felt quite at home."[1]

Before referring to Lagrange's estimate of population in 1830, attention may be given to a census of the population of Bombay and Colaba, which was carried out during the months of August, September, October and November, 1826, and the details of which, given below, were communicated to the Bombay Geographical Society by Major T. B. Jervis, F. R. S., in 1839-40.[2] 1830—1836.

Census of 1826.

Number of Houses.	Districts.	English.	Portuguese.	Parsee.	Mussulman.	Hindoo.	Mahar.	Others.	Total.
1,219	Fort	432	359	6,303	1,232	5,029	142	114(2)	13,611
5,459	Dungaree... ..	46	1,294	1,764	12,888	29,654	513	1,200(3)	47,359
4,311	Byculla h	51	114	983	9,226	19,076	1,633	...	31,083
894	Mazagon	82	810	304	302	3,056	142	...	4,696
361	Malabar Hill, etc.	59	44	119	51	2,180	29	10(4)	12,492
2,259	Geergaum ..	61	1,448	1,074	519	9,898	7	33(4)	3,040
4,904	Mahim(1)	32	3,539	67	1,399	12,341	335	...	17,713
520	Colaba	175	412	124	303	1,358	204	...	2,576
	Total ...	938	8,020	10,738	25,920	82,592	3,005	1,357	132,570
	Military	...	...	...	...	...	...	...	10,000
	Floating Population	...	...	...	...	...	...	...	20,000
	Grand Total	...	...	...	...			...	162,570

(1) Including Varli and all the villages between Sion and Chinchpokli.
(2) Include 70 Jews and 39 Armenians and 5 Chinese.
(3) All Jews.
(4) All Chinese.

[1] Mrs. Graham (Journal of a Short Residence in India, 1813), speaks of "the amazing populousness of this small Island." Murphy (Trans. Bomb. Geog. Soc. Vol. I) states that the great influx of Parsis commenced with the decline of Surat and the transfer of its trade to Bombay ; that the Persian, Arab and Kandahari settlements mark the epoch of the trade in horses ; while the Brahman population commenced to increase in consequence of our relations with the Peshwa, received a great impetus at his overthrow (1817) and has been ever since on the increase. (1838).

[2] Trans. Bomb. Geog. Soc. Vol. III, 1839-40.

In 1830 Lagrange estimated the population at 229,000[1]; in 1835 the public press reported a census at which 230,000 persons were returned, of whom about 15,000 lived within and 215,000 outside the Fort[2]; while in 1836 Lagrange again records an estimate of 236,000.[3] The defeat of the Peshwa and the gradual pacification of the Deccan were the chief factors in the expansion of the Bombay population, which profited largely by the amelioration of communications by sea and land and the commercial progress of the Company. As early as 1825-28 Mrs. Elwood remarked upon the huge mixture of foreigners in Bombay—English, Portuguese, Chinese, Parsis, Malays, Arabs, Persians and Armenians[4] and the increase in these classes synchronized with an appreciable augmentation of the indigenous population.

Ten years after Lagrange's second estimate the benefits of peace and an ordered administration had helped to raise the population to 566,119 of which Murray gives the following details[5] :—

Jains, Lingayats or Buddhists	1,902	Indo-Britons	1,333
Brahmins	6,936	Indo-Portuguese ...	5,417
Hindus of other castes.	289,995	Pure Europeans (including soldiers) ...	5,008
Muhammadans	124,115	Sidi, Negro-Africans.	889
Parsis (over-rated) ...	114,698	Other castes	7,118
Jews	1,132		
Native Christians ...	7,456	Total ...	566,119

[1] Edwardes' Rise of Bombay, 240. DaCunha, Origin of Bombay, 348.

[2] The Bombay Times, May 29, 1841. The editor added that the area of the Fort was one-fiftieth of the whole (19 square miles) and the Fort population was one-fifteenth of the total population of the island (230,000).

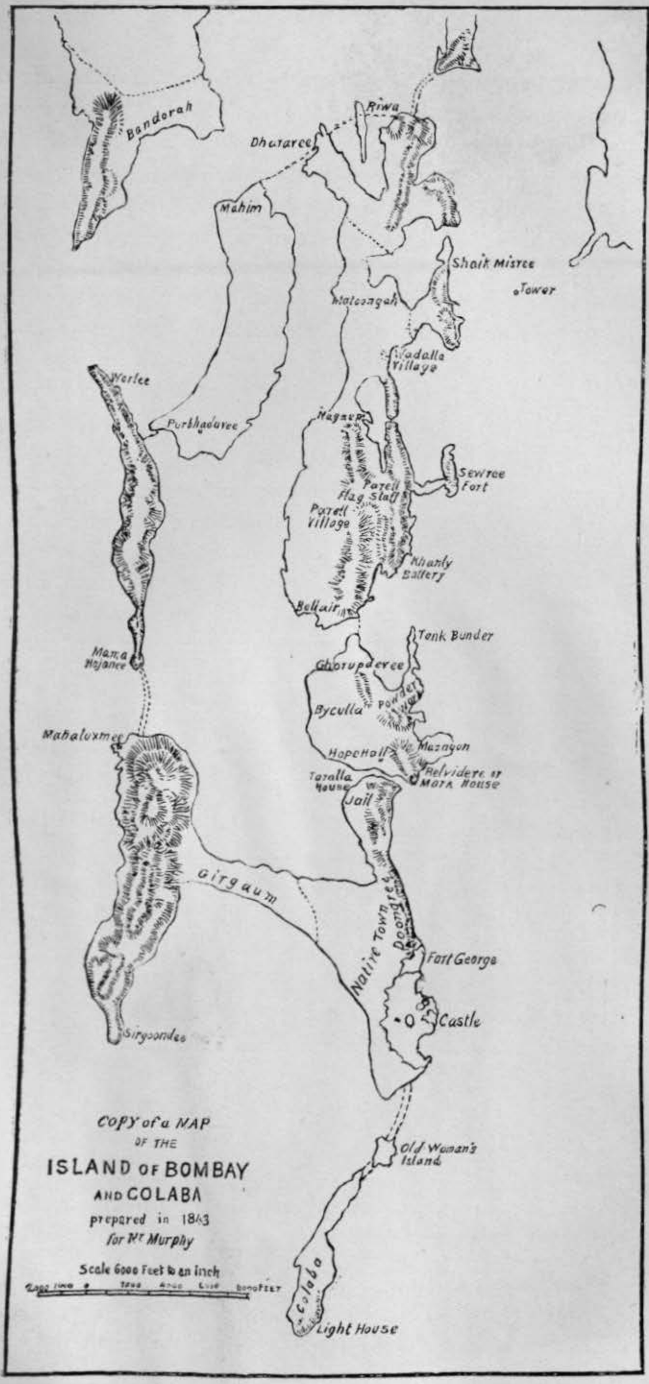
[3] (i) Edwardes' Rise of Bombay, 240. DaCunha, *ibid.*

(ii) The Census Report of 1864 states that "in the year 1833-34 another numbering of the people was undertaken: but after it had continued nearly 12 months, the only result reported was that during that time 117,016 adults had been counted. The Senior Magistrate of Police, under whose direction the census was taken, added to the number of adults an equal number, on account of children, and reported 234,032 as the probable total population."

(iii) Fontanier (Voyage dans l'Inde) speaking of Bombay in 1835-44 says:—"On èvalue à près de trois cent mille âmes la population de Bombay, et il est douteux que dix milles rèsident dans la ville: ou peut juger pār là du nombre de ceux qui entrent et sortent regulièrement."

[4] Narrative of an Overland Journey to India.

[5] Murray's Hand-book of India, Part II. Edwardes' Rise of Bombay, page 296.


Bandorah
Riwa
Dhararee
Mahim
Shaik Misree
Tower
Matoongah
Wadalla Village
Worlee
Purbhadevee
Naigaum
Sewree Fort
Parell Flag Staff
Parell Village
Khanly Battery
Bellair
Tank Bunder
Mama Hajanee
Ghorupdeeree
Byculla
Powder Works
Mahaluxmee
Hope Hall
Mazagon
Taralla House
Belvidere or Mark House
Jail
Girgaum
Native Town
Doongree
Fort George
Castle
Sirgoondee
COPY of a MAP OF THE ISLAND OF BOMBAY AND COLABA prepared in 1843 for Mr Murphy
Scale 6000 Feet to an inch
Old Woman's Island
Colaba
Light House

This considerable increase must have been very sudden: for Von Orlich, referring to the island in 1842, wrote :—"The island is inhabited by about 200,000 persons increased by a floating population of 70,000 seamen, merchants, pilgrims and peasants. Nearly two-thirds of the population are Hindus; about 20,000 are Parsis and the remainder Musalmans, Jews and Portuguese Christians."[1] The increase, however, which was solely due to a steady expansion of trade, is corroborated by the author of *Life in Bombay*, who remarks that "the minute and accurate survey of the year 1849 proclaimed the residents of Bombay to consist of nearly 500,000 souls."[2]

In 1863 the Census Act (11 of 1863) was passed: and by that date the population of Bombay had risen so enormously in consequence of the Share Mania and the general commercial excitement induced by the American War, that Sir Bartle Frere, recognising that no sanitary improvement could be initiated without an accurate estimate of population, decided to have a census taken in 1864. The opposition to this measure, manifested by the Home Government, has become a matter of history but the Governor was persuaded of its utility and entrusted the work to Dr. Leith, Municipal Health Officer. The figure recorded by him was 816,562, of which 783,980 represented the city population, and 32,582 the harbour population. The total number of occupied houses was 25,994 for the whole island; and in the Market, Dongri, Dhobi Talao, and Girgaum sections, the number of families to a two-storeyed house averaged from 3·71 to 9·42; while **Census of 1864.**

[1] Von Orlich's Travels in India, Vol. I, London (1845).

[2] Life in Bombay (1852), p. 45. Dr. Leith (Census Report of 1864) takes an adverse view of the accuracy of this census of 1849. It was carried out by the Superintendent of Police: "but the money and establishment at the disposal of that officer were altogether inadequate, and his attempt ended in failure. The tables were however published in the *Government Gazette* of 10th January 1850. Two further attempts were made in the year, 1851, but with no better success."

General Administration Report for 1855—56 (page 11) gives the population in 1851 at 520,800, and states that this figure had considerably increased by 1855.

the number of persons to each house ranged from 39 to 83.[1]

Census of 1872.

By the year 1872 it had become evident that a decrease of population had occurred; and a second census was therefore carried out by the Municipal Commissioner, at which a total population of 644,405 was recorded.[2] The details were as follows :—

Caste.	Persons	Percentage to Population.
Buddhists or Jains...	15,121	2·35
Brahmins	25,757	4·00
Lingayats	1,242	·19
Bhattias	9,466	1·47
Hindus of other castes	340,868	52·90
Hindu out-castes	31,347	4·86
Muhammadans	137,644	21·36
Negro-Africans	1,171	·18
Parsis...	44,091	6·84
Jews	2,669	·41
Native Christians and Goanese. ...	25,119	3·90
Eurasians	2,352	·36
Europeans	7,253	1·13
Chinese	305	·05
All races and castes ...	644,405	100·00

Maclean, commenting upon the result, remarked that the disproportion between the sexes was extraordinary, there being 399,716 males to 244,689 females; and that nowhere else in the world were so many and such striking varieties of race, nationality and religion represented as in Bombay. The total number of dwelling-houses was 29,779.[3]

Census of 1881.

Nine years later the Municipality carried out a third census, at which a total of 773,196 was recorded, the increase being due to the general progress of trade, particularly of the cotton spinning and weaving industry, the extension of railway communications, and the advance of

[1] Census Report for 1872 by Dr. Hewlett.

[2] *Ibid.* Edwardes' Rise of Bombay, pp. 298—300.

[3] Guide to Bombay (1875). Among the classes of whom Maclean makes special mention are the Gujarat Banias, the Marathas, the Parsis and Indo-Portuguese; Afghans, Persians, Arabs, Turks, Malays, Abyssinians, Jews and a few Armenians.

urban administration. The details for 1881 were as follows :—

Class.	No. of Persons.	Percentage to total Population.
Jain	17,218	2·23
Brahmin	35,428	4·58
Lingayat	1,167	·15
Bhattia	9,417	1·22
Hindus of other castes...	407,717	52·73
Hindu, low castes ...	49,122	6·35
Musalman...	158,024	20·44
Negro-African	689	·09
Parsi	48,597	6·29
Jew...	3,321	·43
Native Christian and Goanese.	30,708	3·97
Eurasian	1,168	·15
European	10,451	1·35
Buddhist	169	·02
Total...	773,196	100·00[1]

Census of 1891.

The fourth official census, taken in 1891, resulted in a population of 821,764 being recorded, the increase being mainly due to the growth of the mill-industry and of the trade of the port. The details were as follows :—

Hindu	543,276
Musalman	155,247
Christian	45,310
Jain	25,225
Parsi	47,458
Jew...	5,021
Others	227
Total ...	821,764[2]

Census of 1901.

In 1896 the plague appeared upon a portion of the Port Trust estate; and from that date up to March 1st, 1901, when the fifth official census was carried out, it operated adversely upon the numbers of the population in various ways. Apart from the mortality which rose on occasions to more than three times the normal rate, the continually recurring epidemics caused an immense exodus of popu-

[1] Census Report for 1881 by Surgeon Lt.-Colonel Weir, I.M.S.

[2] Census Report for the Bombay Presidency, 1891, by W. W. Drew, I.C.S. No separate report was written for the City and Island in that year.

lation, paralysed business and disorganised trade, and swallowed immense sums of money which would otherwise have been spent in improvements calculated to attract new immigrants.[1] The total population, recorded in 1901, was 776,006, the general results being as follows :—

Hindu	508,608
Muhammadan	155:747
Christian	45,176
Jain	14,248
Parsi	46,231
Jew	5,357
Others	639
Total...	776,006[2]

General account of the People.

The following table shows the number of followers of the chief religions in Bombay city :—

Religion.	1872.	1881.	1891.	1901.	1906.
Hindu ...	408,680	502,851	568,501 (Hindu and Jain)	5,08,608	7,06,154 (Hindu and Jain)
Jain ...	15,121	17,218		14,248	
Musalman ...	138.815	158,713	155,247	155,747	1,68,677
Christian ...	34,724	42,327	45,310	45,176	48,508
Native Christian ...	*25,119*	*30,708*	*29,432*	*29,645*	*30,223*
European and Eurasian ...	*9,605*	*11,619*	*15,878*	*15,531*	*18,285*
Parsi ...	44,091	48,597	47,458	46,231	48,824
Others ..	2,974	3,490	5,248	5,996	5,659
Total ...	644,405	773,196	821,764	776,006	977,822

[1] Edwardes' Rise of Bombay, p. 327.

[2] In March 1906 a census was carried out by Dr. Turner, Municipal Health Officer, which resulted in a population of 9,77,822 being recorded. The increase was general in all sections of the island except Upper Colaba and 1st Nagpada, the decrease in the latter being due to the operations of the City Improvement Trust. Hindus formed 72·2 per cent. of the total population of the island ; Zoroastrians 5 per cent.; Muhammadans 17·3 per cent. and Christians 5 per cent.; while of the total increase of population since 1901, namely 201,816, Hindus formed 90 per cent. and Musalmans 6 per cent. The female population was found to have increased from 296,220 in 1901 to 364 811, the Parsi and Jew communities showing the largest percentage of females to males. The infant population had increased from 9,930 in 1901 to 13,027, while the number of children under 5 years of age increased by roughly 20,000. Of the total population 65 per cent. were recorded as born outside Bombay City and 14 per cent as born in foreign countries and places in India outside the Bombay Presidency. The Thana, Kolaba and Ratnagiri

The oldest residents of Bombay are the Palshikar Brahmans, the Pathare Prabhus, the Bhandaris, the Panchkalshis, the Agris and the Kolis. Excluding the Kolis, who are unquestionably the aboriginal inhabitants of the Konkan littoral, the Palshikar Brahmans and the Pathare Prabhus play a leading part in the earlier history of the island. The former, for example, were granted by the East India Company the special privilege of presiding at the religious ceremonies of the Hindus of Bombay and of administering medicine to the sick, as is proved by patents signed by Sir John Child, William Phipps and Richard Bourchier. (See above page 144, note 3.) These privileges were definitely ratified in 1689 and in 1723 by a patent, dated the 21st August, signed by "John Courtney, Chief Justice of the Court of Bombay".[1] Up to the decade 1870-80 most of the houses on the Kalbadevi road from Ramwadi to the Robert Money School, as also those in the two Hanuman lanes, Chaulwadi, Gaiwadi, *Hindus.*

Districts supply about 27 per cent., the Deccan 19 per cent., Gujarat 7 per cent. and the Native States of the Bombay Presidency 12 per cent. of the total population. As regards occupation, 18 per cent. of the total were classed as industrial workers, 16 per cent. as labourers, 12 per cent as shopkeepers, dealers, hawkers, etc., 9 per cent. as servants and 6 per cent. as engaged in clerical professions. The Christian population rose from 45,176 in 1901 to 48,508 in 1906. (Report of the Municipal Commissioner, Bombay, 1906).

[1] The Patent runs as follows :—

Whereas various and sundry disputes have arisen concerning ye right of administering the rites and ceremonies of the Gentoos of this Island and have continued a long time undetermined not only to the great prejudice of the person in whom the said right is vested, but also to the great detriment of this Island, by the unlimited License of Ye Brahmans resorting hither as well as drawing the money of the inhabitants as several other ill-practises tending to disturb the peace and good Government thereof. It being absolutely necessary effectually to put a stop to this evil and the many inconveniences attending it. In order thereto the pretensions of the several claimants having been impartially examined and their several reasons inquired into and twelve men, heads of their religion, four from each caste having been summoned and their opinion required under their hands whereby it is become their proper act and no objection can ever arise and they having unanimously given it as their opinion that the sole right of administering the said rites and ceremonies of their religion is vested in Shama Gharia Brahmin (exclusive of all others, both by right of succession and otherwise) and that the said Shama Gharia Brahmin is a person well affected to the English Government and every way duly qualified for the said office.

(Seal.)

Popatwadi, Phanaswadi, and Dukkarwadi, belonged to the Prabhus and a few Palshikar Brahmans ; and members of both these communities, particularly the Prabhus, held important posts under Government. At the present date they have been ousted from these areas by the more enterprising Bhattias and Banias, who have acquired most of the properties in Kalbadevi road and the neighbouring localities. The Bhattias and Banias (especially those of the Kapol division) have played an important part in the commercial development of Bombay during the last two centuries. The Kapol Banias came from Gogha and Surat with their leader Shet Rupji Dhanji[1] about the year 1756. The Bhattias came to Bombay from Kathiawar and Cutch about the beginning of the nineteenth century, and have since played a large part in the development of the mill-industry. They voyage to Zanzibar, Muscat, China and Japan for trade-purposes, but are forbidden by religion

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Entered in the Registers of the Court of Bombay. A. Upron, Registrar.

For the above considerations and well to answer ye purposes therein mentioned I, J. Courtney, Chief Justice of the Port and Island of Bombay, being sworn to do justice according to equity and a good conscience, do by the order and with the consent of the Hon'ble Mr. Phipps, Esquire, President and Governor of H. M.'s Castle and Island of Bombay, &c., confirm the aforesaid Shama Gharia Brahmin in his said right of presiding over the Gentoos of this Island so far as it relates to the administering the rites and ceremonies of their religion and the ordering and directing what Brahmins shall officiate under him hereby granting him our Patent confirming him for ever in the said right and all ye profits perquisites and advantages arising . . . . Behaving himself agreeable to the known laws and customs of their religion and as a good subject to this Government requiring by virtue of these Presents entire obedience from all the Gentoos on this Island to his orders and directions in what concerns their religion and to the rights he is solely vested with both by the Hon'ble the Governor's Proclamation of the 27th May last past and by this my Patent granted under the great seal of my office as Chief Justice of the Court of Bombay and entered in the Register of the said Court. Given in Bombay this twenty-first day of August, in the year of Our Lord God one thousand seven hundred and twenty-three and in the tenth year of the reign of our Sovereign Lord George of England, Scotland, France and Ireland, King Defender of the Faith, &c.

JOHN COURTNEY.

[1] Rupji was the ancestor of the late Sir Mangaldas Nathubhai, who was leader of the Bombay Hindus in the seventies and eighties of the last century. The late Sir Harkisondas Narottamdas and the late Shet Varjivandas who built the Madhav Baug also belonged to this family.

to journey to Europe and America. It is stated that they were originally flesh-eaters; but since their conversion to the sect of the Vaishnav Vallabacharyas they have become strict vegetarians and even abjure the eating of *palandu* (onions) and *lasuna* (garlic) on the ground that the Hindu Shastras forbid the use of these vegetables.[1] They claim to be Bhati Rajputs, the name Bhati or Bhatia being derived from the Sanskrit *bhat*, a warrior.[2]

Other arrivals, who are equally connected with the development of Bombay, are the Shenvis or Sarasvats and the Sonars or Daivadnyas;[3] while among the older inhabitants of the island the most important are the Panchkalshis or Somavanshi Kshattriyas, who apparently at one time formed one caste with the Prabhus but are said to have become a separate division in consequence of the infringement of certain caste rules. They resemble the Prabhus closely in their dress, food, customs, and social and religious observances, and are very hard-working and industrious. Among the lower classes the most noteworthy are the Bhandaris, Marathas, Mhars, Vadvals, Agris and the Kolis, of the first and last-named of whom a separate account is given below.

Among the Hindus of Bombay the Pathare Prabhus have always set the fashion in dress, food and mode of living. Up to about 1870 the dress of the Prabhus was considered model attire by the bulk of the Hindu residents, and communities like the Shenvis, Panchkalshis, Sonars, Khatris, Vadvals and Bhandaris imitated or adopted it. The real Prabhu coat is longer than the ordinary Hindu coat, its *bands* (fastenings) are flat instead of round, and the *magji* on the chest is triangular instead

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[1] Manu says:—"Palandu lashunadashcha, ajoshtri-kshirapayinas Sadyas patate mamsena lakshaya lavanena va," *i.e.*, Those of the twice-born who eat flesh become instantly corrupt: and thus also those who eat onions, garlic, wax and salt (unmixed)and those who drink the milk of goats and camels become corrupt. Vide *Bhavishya Maha Purana*, chap. 41.

[2] Among distinguished Bhattia citizens of Bombay have been Mr. Goculdas Tejpal and Mr. Murarji Goculdas.

[3] The celebrated Dr. Bhau Daji belonged to the Shenvi community, as also Mr. Justice Kashinath Trimbak Telang. Mr. Jagannath Shankar Shet belonged to the Sonar community.

of circular as in the ordinary Brahman coat. The Prabhu *bandi* (waistcoat) is usually fastened down the front instead of at the side like the Brahmin *bandi*. The *dhotar* (waist-cloth) has either a silk or coloured cotton border, and the shoes are black and pointed. The Prabhu does not wear the Brahman *uparna* or shoulder-scarf, but on festal occasions will don a gold-broidered *shela* and sometimes a shawl (*ol*). As with the men, so with the women fashion has been regulated in the past by the Prabhu community. The indoor-dress of a Prabhu woman consists of a Dhanwad, Nagpur or Ahmedabad *sari* (robe) and a tight-fitting *choli* (bodice), which was formerly made of *cholkan* or country cloth with a silk border or embroidery but is now usually made of Manchester cloth. The dress of the Gujarat Hindus differs materially from that of the Maratha Hindus. The former wear their *dhotar* with the *kashta* or tuck on the right side, the latter always have it on the left side. The Gujarat *angarkha*, *bandi* and shoes resemble those of the Prabhus, but the turban is quite different (see Appendix I) and is made in various shapes known as Bhavnagari, Surati, Ghogari, Damani, Ahmedabadi and Kathiawari. Of these the Bhavnagari and Ahmedabadi styles are disappearing in favour of the Damani and Surati types and even of the Maratha Brahman turban. A few wear Turkish caps. The Parsis, when they first settled in Gujarat, adopted the dress of the Gujarati Hindus, the only difference being that their males and females both wore the *sadra*, *kusti* and trousers and that the latter covered their heads with a white cloth.[1] But the Parsi dress is now being rapidly supplanted by European attire, particularly in the case of the old head-dress which often yields place now to European hats and helmets.

The condition of the older inhabitants of Bombay has materially changed during the last fifty years. The spacious houses and large compounds of the Prabhu and Palshikar communities have now disappeared, and the habit of living in flats and chawls, which was once regarded as highly undignified, has now been forced upon these communities by the competition of other and more

[1] Even to-day a few Parsis in Gujarat wear red Hindu turbans.

commercially-minded castes.[1] This has resulted also in the relinquishment of old customs, such as that of keeping cattle. Formerly many Prabhus and most of the Palshikar Brahmans kept two or three cows in the compounds of their houses which served to supply the family with milk and were also useful for religious rites like the *go pradan* or cow-gift ceremony. This practice has almost entirely disappeared.

The names in common use among Maratha Hindus are generally the names of the Hindu gods and goddesses, such as Ramchandra, Krishna, Vishnu, Narayan, Hari, Govind for males, and Sita, Savitri, Ganga, Uma, Parvati for females. The Gujarat Hindus occasionally give the joint name of a god and goddess to their menfolk, such as Parvati-Shankar, Gauri-Shankar, Durgaram, Ratiram; and the joint name of two goddesses to their women, such as Kamala-Gauri, Vijaya-lakshmi, Amba-lakshmi. People who have lost a child when young prefer to give to those born later such names as *Dhondu* (stone), *Bhiku* (beggar), *Keru* (sweepings) and *Ukirda* (dung hill), in the belief that these ugly names will avert the evil eye from their offspring. This practice, however, is somewhat on the decline ; and Hindu mothers, who are gradually becoming better-educated, prefer the names of the heroes and heroines of the Mahabharata, Ramayana, and the Sanskrit dramas of Kalidas and Bhavabhuti. The Maratha Hindus add to their names the suffixes *Rao* and *Pant* in the case of the higher castes and the suffix *ji* in the case of the lower castes ; while the suffixes most common among Gujarat Hindus are *lal*, *bhai* and *das*. Among both Maratha and Gujarat Hindus the honorific suffix *bai* is added to female names, *e.g.*, Ramabai, Krishnabai, Savitribai etc. The Hindu equivalents of *Mr.* and *Esquire* are *Ra* and *Ra Ra*, the former meaning *Rajashri* (illustrious) and the latter *Rajamanya Rajashri* (honoured of the king and illustrious) ; in the case of Brahmans the words *Veda Murti* (image of the Vedas)

[1] In 1863 the author of an "Account of Bombay," p. 24, wrote :—जोशी आणि परभु लोकांचे विस्तीर्ण वाडे जागोजागीं दिसतच आहेत.- *i.e.*, one may still see here and there the palatial buildings of Joshis and Prabhus.

are inserted before *Ra Ra* and, if the person addressed is learned in Vedic and Shastric lore, the words *Veda Shastra Sampanna* are likewise inserted. An elderly relative is usually addressed as *Tirtha-rupa* (equal to a *tirtha* or holy bathing place) and parents as *Tirtha-swarupa*; while a married woman is addressed as *Saubhagyavati* (possessed of good fortune) and a widow as *Ganga-Bhagirathi* (peer of the Ganges and Bhagirathi). *Chiranjiva* and *Chiranjivi* (long life) are epithets applied to a son, daughter or young relation.

The chief outdoor amusements of the Hindus of Bombay are cricket, *at-pat* or *atya-patya*, and *viti-dandu*. The *at-pat* consists of eight *pats* or rings which some of the players defend and the rest try to pass through untouched by the defenders, while the *viti-dandu* is played with a *viti* (wooden ball) and *dandu* (club or bat). Nowadays these games are played only during the fifteen days of the Holi holiday, on which occasion the higher and lower castes meet on a footing of equality. The chief indoor games are *Patte* (cards), *Dashavatari-ganjifa* or round cards with pictures of Vishnu's incarnations upon them, *Songtyas* and *Buddhibal* or chess. These games are much played during the Divali holidays. Among Hindu societies and clubs may be mentioned the Dnyan Prasarak Mandali, founded for educational objects; the Hindu Mahajan Mandal; the Hindu Burning and Burial Grounds Committee, composed of representatives from various Hindu castes; the Hindu Mahajan Committee, designed to promote friendly intercourse and to manage certain temples and charitable institutions; the Hindu Union Club, founded in 1875 by the late Mr. Justice Telang.

The chief Hindu festivals in Bombay are the Dasara, Divali, Holi, Ganesh Chaturthi and Gokul Ashtami; while the chief fast days are the Ramnavmi, Janmashtami, Ashadhi and Kartiki Ekadashi, Mahashivaratra, and Pithori Amavasya. Every temple in Bombay has its fairs, the most important being those at Walkeshwar, Matunga, Mahalakshmi, Naviwadi, Kalbadevi, Mumbadevi, and the Narali Purnima or Cocoa-nut day fair.

The Dasara, so called from *dash* (ten) and *ahar* (day) is a ten-day festival in honour of the goddess Durga,

and is therefore also called Durgotsava. The first nine days are known as the Navaratra, and on the first of these the ceremony of *ghatasthapana* or the invocation of the goddess to be present in the *ghata* is performed. A few handfuls of rice are placed upon a wooden stool and upon them a brass or silver pot filled with water. A silver or copper coin and a betel-nut are placed inside the pot and the mouth is covered with mango-leaves and a cocoa-nut. The pot thus decked represents the goddess and is daily worshipped for nine days. Throughout the period a Brahman priest reads the *Saptashati* hymns in praise of the goddess, and on the night of the ninth day a *hom* (sacred fire) is kindled in the temples of the goddess, and is supplied with offerings of clarified butter, sesamum, barley and the sacred *samidhas*. Among Gujarat Hindus the women perform the *garba* or religious dance, singing songs in praise of the goddess. On the morning of the tenth or the Dasara day the Hindus take an early bath and worship their religious books (*granths*) and household gods, and in the afternoon they don holiday attire and walk in procession to the temples. The largest gatherings take place at Mumbadevi, Bhuleshvar and Madhav Baug. Here the people worship the *shami* or *apta* tree, and after offering the leaves to the goddess distribute them among their friends and relatives, calling them gold and repeating the following couplet :—

> "Adi Raja, Maha Raja, Vana Raja, Vanaspati,
> Ishta darshana mishtanam, Shatru namcha parajayat."
> "O great and Supreme forest-King, we hail thee!
> The greeting of friends and relatives is sweet as sweet meals.
> May our enemies be worsted !"

The Dasara day is considered highly auspicious for the undertaking of any new work or business ; and children who are commencing their studies generally attend school for the first time on this day. It is also considered a suitable day for a couple who have married at an early age to commence living together.

The Divali festival, so called from *dip* (lamp) and *avali* (row), is celebrated in honour of the victory of Vishnu

over the demon Narakasura, and is really a combination of four different festivals, namely, the *Naraka Chaturdashi* bathing, the *Lakshmi-puja* or worship of the goddess of wealth, the *Bali-pratipada* or new year's day of Bali, king of the lower regions, and the *Bhau-Bija* or greeting of brothers and sisters. On the *Naraka Chaturdashi* the Hindu rises before day-break, illuminates his house, rubs his body with perfumed ointment and bathes in hot water. A lighted lamp, sugar, red powder (*kunku*), rice and tiny lamps made of dough (*karandis*) are placed on a tray; and as soon as each member of the family has finished his ablutions, an elderly un-widowed lady of the house waves the tray round the face of each member, applies rice and red powder to his forehead, gives him sugar to eat, and places the dough lamp at his feet. The family then dons its best raiment, distributes sweetmeats, and invites friends and relatives to dinner. The next day or *Amavasya* is sacred to the goddess of wealth and learning, and is characterized by the evening ceremony of *Lakshmi-puja.* Small lamps made of prickly pear are lighted and placed upon a low wooden stool in front of the household gods, and all the house-lamps are also lighted and placed there. The mistress of the house then performs the worship of these lamps with the usual adjuncts of red powder, rice, flowers, etc; and this completed, places one of the lamps in front of the household gods, another before the *tulsi* plant, and the remainder in various places inside and outside the house. This day is the last of the *Vikrama Samvat* commercial year, and consequently all the merchants of the city close their books for the year, prepare new ledgers, and perform the *daftar-puja* or worship of their account books, at which a Brahman officiates. The third day of the Divali is known as *Bali-pratipada* from the fact that on that day King Bali was despatched to *Patal* or the lower regions by Vishnu. After the usual morning ablutions and anointment the house is thoroughly swept and garnished, the sweepings are placed in a basket or winnowing-fan, a lighted lamp and a copper coin are placed upon them, and the sweepings are then

taken away and thrown down at the junction of three roads. At the moment when the sweepings are removed the following words are repeated:—

"Ida javo pida javo Balicha rajya yevo"
"May evil vanish, may the kingdom of Bali come."

Bali, as represented by a cocoanut placed on a jar of water, is worshipped, and gifts of money or food are made to Brahmans and beggars. The fourth day of the Divali is known as *Bhau Bij* (Brother's Second), as on that day brothers visit their sisters and present them with money and ornaments. According to Hindu mythology Yamuna, sister of the God of Death, invited him to dine at her house, whereupon Yama granted her costly gifts and promised good fortune to all mortals who follow his example. Nowhere in India is the Divali celebrated in such magnificent style as in Bombay; and the illuminations in which Parsis and Muhammadans also play their part, are considered typical of the greatness and prosperity of the city. Of late years the lavish character of the display has somewhat declined.

The Holi or Hutashani, also styled *Shimga* from the month in which it occurs, lasts for twenty days and is probably closely connected in origin with the vernal equinox. The word Hutashani means fiery and shows that the Holi is the festival of fire even as the Divali is the festival of lamps. The festival commences on the 1st of the Hindu month of *Phalgun* and lasts for twenty days during which Hindus of all classes participate in sports and merrymaking. Ten years ago the Holi was celebrated in Bombay with as much splendour as the Divali; but since 1897 the continued ravages of plague have combined with the spread of Western education to rob the holiday of much enthusiasm. The most notable features of the celebration in the past were the *Rangapanchami* day, the *Abir* day and the *Varghoda* procession of the Pathare Prabhus. Much ingenuity was exercised in the selection and arrangement of the *Varghoda* scenes of mimicry. A beggar boy would be in the first place selected as the *Var* or bridegroom, and was then placed upon a horse with his face to the tail, decked in full tinsel paraphernalia. He headed a

procession of about sixty carts and carriages filled with men disguised as dancing-girls, monkeys, etc., and with persons dressed to represent popular and unpopular citizens or countrymen and bearing appropriate mottoes and legends. The procession, which started from Naviwadi and passed up the Kalbadevi road, Pallav road, and through the principal thoroughfares of the native city, is still a feature of the annual festival, but is less lavishly patronised than it used to be.

The material condition of the Hindu population has undergone considerable change, particularly in respect of their mode of living, style of dwelling, and nature of furniture. Western ideas and customs are gaining ever firmer hold upon the upper and middle classes. The strong durable brass lamps, for example, called *samayi* and *laman diva*, which were once universally used, have yielded place to English or German lamps, with fragile globes and glass chimneys, and in lieu of the carpets and *takias* of the old style most houses have now a few chairs and a sofa of western pattern together with a writing-desk in place of the old *chaurang*. As late as 1870 many of the houses in Girgaum, Parel and Mahim were built of mud, but except in the distant suburbs this style of dwelling has now entirely disappeared. In most families, too, the joint family system has now disappeared, the general tendency being for brothers and cousins to live separate. In a few families harmony is preserved and brothers contrive to live amicably under one roof with their families, so long as their parents are living. But when the heads of the family pass away friction often arises and the influence of an English education forces the brothers to seek separate lodgings. Another potent factor of disintegration is the loss or sale of old family houses and estates. The old communities of Bombay often complain that while western education has made rapid progress in the city, Hindu society has become gradually disorganized ; the younger generation pay scant respect to their elders, keen competition has curtailed their means of livelihood, and many are therefore adopting the system of living separately in flats or chawls with the *Pailades* (outsiders or persons not belonging to Bombay).

The Jains are a rich community, forming about 2 per cent. of the total population of the city. Excluding the Marwadis who are chiefly pawn-brokers, usurers and money-lenders, the Jains are wholly engaged in commerce and trade. The community has no hereditary priesthood; but their priests, who are styled *Jatis* or *Gorjis* are nevertheless fairly numerous, and are distinguished by wearing loose white mantles, leaving their heads bare, and by wearing a piece of cloth over their mouths and carrying a light brush (*chauri*) to sweep away any small animal or insect that lies in their path. There are 9 Jain temples in Bombay, known as *Deras* and consecrated either to Shantinath or Parasnath, two of their 24 Tirthankars or Hierarchs. The most typical temple is situated near Paidhoni, and shelters the idol Ghorajinath decked with gems. There are no Digambar temples in Bombay, and consequently all the images are Swetambar, *i.e.*, clothed in white. *Jains.*

The Muhammadans of Bombay belong partly to the Sunni and partly to the Shia sects, the number of the former being 127,000, and of the latter 27,000. The main point of difference between the two great divisions is that the Sunnis consider Abubakr, Umar and Uthman the lawful successors of the Prophet, while the Shias espouse the cause of Ali the fourth Khalifa and his sons Hasan and Husein. In consequence the Shias omit from the Koran certain passages alleged to have been written by Uthman and add a chapter in praise of Ali. Further they follow the precepts of the Bara Imam or 12 Imams instead of the 4 Imams and claim that their *Mujtahids* or religious superiors in Persia have power to alter the spiritual and temporal law. In Bombay the Arabs, the Memons, Konkani Muhammadans, Pathans, Deccani Muhammadans and one sect of Julhais are Sunnis, while the Bohras, Khojas, Mughals, one sect of Julhais and a certain division of the Chillichors or Musalman hack-victoria drivers are Shias. *Musalmans.*

The chief Musalman tribes returned at the census of 1901, were Arabs (6,000) including 5,000 Sayads, Bohras, (12,000), Julhais or Jolahas (7,000), Khojas (11,000), Memons (17,500), Pathans (7,500) and Sheikhs (89,500)

The Sheikhs, who form the strongest element[1], comprise three main divisions, the Sheikh Kureishi, the Sheikh Siddiki and the Sheikh Farukhi, and are distinguished by the possession of one of the following names as an agnomen or cognomen :—Khwaje, Ghulam, Din, Baksh, Ali-Abdulla. To the names of Sheikh girls the suffixes *Ma*, *Bi* or *Bibi* are added, and the word *Begam* in the case of the children of noblemen.[2]

The Memons (*i.e.* Muamins or Believers) are converts to Islam from the Lohana and Cutch Bania castes, and were a strong and wealthy community in Surat during the hey-day of that town's prosperity. As Surat sank into insignificance the Memons moved southwards to Bombay and immigrated in large numbers after the famine of 1813 in Gujarat and Cutch. When they first commenced to do business in Bombay at the opening of the nineteenth century they appear to have opened tailoring establishments in Lohar Chawl, which was then known to the police as the thieves' bazaar, but their status steadily progressed as Bombay advanced in material prosperity, and at the present date the Memons indulge in every class of trade from shop-keeping, broking and peddling to furniture dealing and timber dealing and include among their number some of the richest individuals in Bombay native society. The middle-class Memons are fairly early risers commencing their day with the Muezzin's call to prayer, *i.e.*, between 5 and 6 A.M. After prayer comes breakfast, consisting of a slice or two of bread soaked in milk or tea, and then the business of the day. Sometimes he takes a *jambil* (Arab-made basket of date-leaves) and goes to market to buy his stock of provisions for the day and spends from Rs. 2 to Rs. 3 on the morning's shopping. The Memon is not an envied customer of the Bombay tradesman ; for he is strict in his observance of the *Sunna* which commands him to haggle " till his forehead perspires, just as it did in winning the money." The chief

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1 The figures require to be accepted with caution : for the majority of converts to Islam have a fondness for describing themselves as Sheikhs of Kureishi stock or even as Sayads. Census Report of Bombay Presidency (1901), p. 202.

2 For further details, please see Bombay Gazetteer, IX, Part II, p. 8.

meal of the day is that corresponding to the Anglo-Indian tiffin and consists of leavened or unleavened bread, meat curry or stew, or two *kababs* (fried fish), curry and rice, and a dish of vermicelli fried in *ghi* and sweetened with sugar. The fish most relished are the pomphlet, the *halva* and the *bombil* or fresh Bombay duck. Chicken and duck are holiday dainties. After dinner comes the siesta for those that can afford the time and then afternoon prayers, which are offered in some neighbouring mosque. Business is again carried on until 8 or 9 P.M. when the Memon returns home to a somewhat meagre supper consisting of a dish of *khichdi* (rice and *mung*). After supper the young Memon starts out for his evening's amusement. He takes a glass of ice-cream here, a cup of tea there, or possibly a dish of *faludha* or rice-gruel which is to Bombay what macaroni is to Naples. If possessed of a carriage he may drive to the Apollo Bander or the bandstand, accompanied by his children, whose importunity he silences by a liberal distribution of salted almonds and pistachios, while he himself discusses with a friend the rate of grain, cotton, or indigo. The journey home is broken by visits to Irani or Anglo-Indian sodawater shops and refreshment rooms. Very often the theatres are patronized and if the piece is not sufficiently attractive the young Memon and his friends, will knock up the household of a dancing girl and beg her for a song or two, for which she charges as high a price as possible. The evening ends with a supper of *malai ke pyale* (cups of cream, *i.e.*, wheat gruel) and hard-boiled eggs. The older Memons usually spend the evening in the tea or coffee-shops of the city where they discuss trade, or at the houses of friends where refreshments are provided and *maulud* or nativity hymns are sung. The Memons are the only people in the Presidency who as laymen are desirous of learning the *maulud*. Another peculiar custom is that of street-praying for rain. A number of men and boys, varying from fifty to a hundred, assemble about 9 p.m., and wander about the streets singing the rain-songs, which have been set to music by some poet of Gujarat or Hindustan and the chorus of which runs "Order, Oh ! Lord, the rain-cloud of Thy mercy" !

Closely allied to the Memons are the Rangaris who claim descent from the Hindu Kshattriya caste and state that their direct ancestor was one of two brothers whose father was converted to Islam. The father died leaving his sons to be cared for by a Hindu relation who naturally brought the boys up as Hindus and married them to Hindu wives. The elder brother, however, was dissatisfied with Hinduism and sometime later entered the fold of Islam with his wife; and from him the modern Rangaris of Bombay are descended, while the Hindu Kshattriyas or Khatris are the descendants of the younger brother. If a Hindu Kshattriya is converted to Islam, he is at once received into the Rangari Jamat, just as a Bhattia who turns Musalman is received by the Khoja community and a Lohana by the Memon community. The Rangaris remember to have come in batches to Bombay a little more than a century ago and are by profession indigo-dyers and carpenters. Many of them have made large fortunes in indigo-dyeing. The Rangaris marry among themselves; their home-tongue is Cutchi; and their dress resembles that of the Bombay Memons and Khojas.

The Bohras are likewise the descendants of Hindu converts to Islam and claim connection with the missionaries sent forth by the Fatimite Khalifa of Egypt in the fourth and fifth centuries of the Muhammadan era. The original conversions took place at Cambay, Paithan, Aurangabad and other places. The community comprises four main divisions, *viz.*, Sunni, Aliya, Daudi and Sulemani, of which the Daudi is numerically the largest and separated itself from the Sulemani, which is the smallest, about three hundred years ago, owing to a dispute as to who was the rightful Dai—one section of the community favouring the claims of Daud while the other favoured Suleman. A large portion of the Sulemani Bohra sect is settled on the western coast of Arabia, where their spiritual head exercises independent authority over a considerable tract of territory. Though not numerous in India the Sulemani Bohra sect has attained great social and intellectual eminence. The late Mr. Justice Badruddin Tyabji was a member of the community, which can claim

to have supplied Bombay with her first Muhammadan barrister, her first Muhammadan solicitor and her first Muhammadan doctor and engineer. The Bohras, who are found in most of the towns of Gujarat and Kathiawar, in Bombay and the Deccan, and in Siam, China, Arabia and Africa, are excellent business men and are engaged in every branch of trade and commerce from retail dealing and tin-working to broking, contracting and the exploitation of industries.[1]

The Khojas are descended from Hindu converts of Cutch, Gujarat and Kathiawar and profess the Shia Muhammadan creed. They form one of the most important and interesting sections of the various races that are permanently located in this city and pay tribute in various forms to the Aga Khan as their spiritual or religious head. As a class the Khojas have raised themselves from obscurity, poverty and illiteracy to prominence, wealth and intelligence during the last hundred years ; and though their religious observances and sectarian peculiarities have sometimes been disturbed by members of the community who have risen up as reformers, the bulk of the community remains firm in its allegiance to the direct descendant of the sixth Imam. They spend their wealth freely upon themselves, upon entertainments and upon charities and resemble the Parsis in that they provide liberally for their poor and are ever ready to find employment for such as are willing to work. Their business is conducted with a minimum of expenditure; their offices or "*pedhis*" are on the verandahs of their houses in Samuel street or Khoja moholla ; their staff of clerks is small; they are generally their own bankers, and with a few exceptions neither borrow nor lend money. Of late years the Khojas have taken far more freely to education than in the days when they first set their steps upon the path of prosperity, and one of the strongest proofs of their general advancement is to be found in the improved position which

[1] Mrs. Postans described the Bombay Bohra in 1839 as the itinerant pedlar of the East; and Hamilton in his *New Account* speaks of that "remarkable race of men named the Bohra who although Muhammadans in religion are Jews in features, manners and genius."

Khoja women hold within the family circle. They are not confined to the *pardah* and are given a distinct voice in the family councils, while multiplication of wives and a readiness to resort to divorce are characteristics almost unknown to the community. A second marriage during the life time of a first wife is only contracted when long experience proves the unlikelihood of the first wife becoming a mother, and when in consequence the family name and wealth are threatened with oblivion. The education of Khoja girls is making appreciable progress and, speaking generally, the women of this community can hold their own in intelligence with the women of any other community in Bombay.

The Muhammadans of Bombay observe a variety of festivals, chief among which are the following. The *Akhar-char Shamba*, also called *Chhela Budh*, is celebrated on the last Wednesday of the month of *Safar*, on which day the Prophet is supposed to have hied himself to a pleasaunce on the outskirts of Mecca. In consequence the Muhammadans on this day go picnicking in the gardens and open spaces of the island and distribute bread to the poor. One of the most favourite resorts is the Victoria Gardens which is crowded on this day with Muhammadans of all classes and their families. Another festal occasion is the *Id-i-Viladat* or birthday of the Prophet, which falls on the twelfth day of the month *Rabi-ul-avval* and is celebrated by the recitation of the *Maulud Sharf* or tale of the Sacred Birth, by the illumination of houses and mosques, by the preparation of special food, by alms-giving to the poor, and by the offering of *Nafils* or special prayers to God. The orthodox also visit Mahim on this day and make their devotions to the sacred hair of the beard of the Prophet which is preserved in the shrine of Saint Makhdum Fakih Ali. The *Gyarvi* festival falls on the eleventh day of the month *Rabi-ul-akher*, and really lasts for the ten previous days. During this period the *Jiara Majlis*, which contains the life-history of Sayad Sheikh Abdul Kadar Jilani, is recited at religious gatherings (*Mahfils*) and private houses. On the night of the tenth day all mosques and houses are illuminated and, when the final portion of the *Jiara*

Majlis is concluded, sweetmeats (*niyaz*) are freely distributed to those who attend and to relations and friends. Throughout the month, indeed, the orthodox Musalman feasts his relations and friends and bestows food or clothing upon the poor; and in many cases a certain portion of his income is contributed to a fund formed for the celebration of this feast of charity and good-will. Much the same procedure is followed on the *Shab-e-Meraj* which falls on the twenty-sixth day of the month of *Rajab*. The *Shab-e-Barat* which falls on the night of the fourteenth day of *Shaban* is characterized by the preparation of special dishes, which are distributed to the poor after the recitation of the *Fatiha* or prayers for the dead and by the feasting of friends and relations. Throughout the night special prayers (*nafils*) are offered, and while the older members of the community wend their way to the cemeteries to place flowers on the tombs of their ancestors, the children and youths hie them to the seashore for a display of fireworks. There are distinct points of resemblance between the *Shab-e-Barat* of Islam and the *Alleseelen* or All Souls' Day of the Christian west. Greater than this festival is the *Id-i-Ramzan* which falls on the first day of *Shavval*. Throughout the preceding month of *Ramzan* a general fast is observed, prayers known as *Taraveh* are offered in the mosques and the *Koran Khani* is recited. The *Ramzan Id* marks the close of the fast, and in consequence every Musalman dons new raiment and repairs to the mosque, and thereafter foregathers with his friends and relations and bids them God-speed. It is a day of whole-hearted rejoicing and feasting; bands and tom-toms are much in evidence; and the children are taken by their parents and relatives to the markets and stalls and presented with toys and sweetmeats known as *Idi*. The following day, known as *Bas-Id*, is also a gala-day for the children of the Muslimin. The theatres and the dancing-girls of the city reap a fair harvest on this occasion. Urdu plays like *Dil-Farosh* draw enormous audiences, and the *divankhanas* of Foras road and the neighbourhood are swept, garnished and brightly-lighted for the benefit of the Memons, Arabs, Konkanis, and others of the Faith, who come to while away an hour or

two amid the strains of the *saringi* and the muffled bourdon of the tom-tom. On the night of the twenty-sixth of *Ramzan* falls the *Shab-e-Kadar* when the mosques and other religious edifices are brightly illuminated, prayers (*nafil* and *taraveh*) are offered, and presents of clothes and money are made to the widow, the orphan and the beggar from the proceeds of the *jakat*, which is a tax of 2½ per cent. on earnings, freely demanded and as freely given. The *Id-i-Baqr* falls on the tenth day of the *Zilhaj* and is characterized, like *Ramzan Id*, by prayer in the mosques. When the prayers are concluded, *Qurbanis* or sacrifices are offered by those who can afford it between the tenth and thirteenth days of the month. These sacrifices, which may consist of a goat, cow or camel, are in essence a kind of talisman for life, a goat representing one life and a cow or camel seven lives. Children spend the day in merry-making as on the *Ramzan Id*.

The greatest annual Muhammadan festival is the Muharram or period of mourning for Hasan and Husein. The following account by an eye-witness[1] gives some idea of a festival which is regarded by the Shia Muhammadans as a real period of mourning and by the Sunni Muhammadans as an occasion for frolic and mummery, based largely upon spirit-beliefs and ghost-scaring borrowed from Hinduism. "Although the regular Muharram ceremonies do not commence until the fifth day of the Muharram moon, the Muhammadan quarters of the city are astir on the first of the month. From morn till eve the streets are filled with bands of boys, and sometimes girls, blowing raucous blasts on hollow bamboos, which are adorned with a tin *panja*,—the sacred open hand emblematical of the Prophet, his daughter Fatima, her husband Ali and their two martyred sons. The sacred five, in the form of the outstretched hand, adorn nearly all Muharram symbols, from the toy-trumpet and the banner-pole to the horse-shoe rod of

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[1] *Times of India*, February, 1908, "The Bombay Muharram. Stray Scenes," by "Etonensis." The chief feature of the Shia Muharram is the passion-play and breast-beating which takes place at H. H. the Aga Khan's house in Mazagon.

the devotee and the domed bier. Youths, preceded by drummers and clarionet-players, wander through the streets, laying all the shop-keepers under contribution for subscriptions; the well-to-do house-holder sets himself to build a *sabil* or charity-fountain in one corner of his verandah or on a site somewhat removed from the fairway of traffic; while a continual stream of people afflicted by the evil eye flows into the courtyard of the Bara Imam Chilla near the Nall Bazaar to receive absolution from the peacock-feather brush and sword there preserved. Meanwhile in almost every street where a *tabut* is being prepared, elegiac discourses (*waaz*) are nightly delivered up to the tenth of the month by a *maulvi*, who draws from Rs. 30 to Rs. 100 for his five nights' description of the martyrdom of Husein; while but a little distance away boys painted to resemble tigers leap to rhythm of the drum, and an Arab mummer with a split bamboo shatters the nerves of the passer-by by suddenly cracking it behind his back. The fact that this Arab usually takes up a strong position near a *tazia* suggests the idea that he must originally have represented a guardian or scapegoat, designed to break, by means of his abuse, buffoonery and laughter, the spell of the spirits who long for quarters in the rich mimic tomb; and the fact that the crowds who come to gaze in admiration on the *tazia* never retort or round upon him for the sudden fight or anger that he evokes, gives one the impression that the crack of the bamboo is in their belief a potent scarer of unhoused and malignant spirits.

"Turn off the main thoroughfare and you may perhaps find a lean Musalman, with a green silk skull-cap, sitting in a raised recess in front of an urn in which frankincense is burning. He has taken a vow to be a *Dula* or bridegroom, that is to say son-in-law to Imam Husein, during the Muharram. There he sits craning his neck over the smoke from the urn and swaying from side to side, while at intervals three companions who squat beside him give vent to a cry of *Bara Imam ki dosti yaro din* (cry *din* for the friendship of the twelve Imams). Then on a sudden the friends rise and bind on to the Dula's chest a pole surmounted with the holy hand, place

in his hand a bunch of peacock's feathers, and lead him thus bound and ornamented on to the highway. Almost on the threshold of his passage a Panjabi Musalman comes forward to consult him. "Away, away" cry the friends, "*Naya jhar hai*" (this is a new tree), meaning thereby that the man is a new spirit-house and has never before been possessed. A little further on the procession, which has now swelled to considerable size, is stopped by a Muhammadan from Ahmednagar who seeks relief. He places his hand upon the Dula's shoulder and asks for a sign. "Repeat the creed," murmurs the bridegroom; "Repeat the *Durud*" (prayers for the Prophet) say the Dula's supporters; and all present commence to repeat the *Kalmah* (creed) and the *Durud*. Then turning to the Muhammadan who stopped him the bridegroom of Husein cries "Sheikh Muhammad, thou art possessed by a Djinn: come to my shrine on Thursday next," and with these words sets forth again upon his wanderings. In the Bhendi Bazaar a Mhar woman comes forward for enlightenment, and the Dula, after repeating the *Kalmah*, promises that she will become a mother before the year expires; while close to Phul Gali a Konkani Musalman woman, who has been possessed for six months by a witch (*Dakan*), is flicked thrice with the peacock-feather brush and bidden to the Dula's shrine on the following Thursday. So the Dula fares gradually forward, now stopped by a Kunbi with a sick child, now by some Musalman mill-hands, until he reaches the Bismillah shrine, where he falls forward on his face with frothing mouth and convulsed body. The friends help the spirit which racks him to depart by blowing into his ear a few verses of the Koran; whereat the Dula, after a possession of about four hours, regains consciousness, looks around in surprise, and retires to his home, fatigued but at last sane.

"Wherever a *tazia* or tomb is being built there gather all the Muharram performers, the Nal Sahebs or Lord Horse-Shoes, the tigers, and the mummers of protean disguise. The spot becomes an *Akhada* or tryst at which the tomb-builders entertain all comers with draughts of *sherbet* or sugared water, but nôt with betel which has no place in seasons of mourning. Here for example comes

a band of Marathas and Kamathis with bells upon their ankles, who form a ring in front of the *tazia* while their leader chants in a loud voice :—

> "*Alif se Allah, Be se Bismillah, Jum se meri jan. Tajun Imam Husein ki nyaz dharun!*"
>
> "Alif for Allah, B for Bismillah, J for my life. An offering is this to Husein"!

The chorus take up the refrain at intervals ; and then as distant drumming heralds the approach of a fresh party, they repeat the Muharram farewell, "*Ishki Husein*" (Love of Husein), and pass away with the answer of the tryst-folk, "*Yadi Husein*" (Memory of Husein) still ringing in their ears. The new party is composed of Bombay Musalman youths, the tallest of whom carries an umbrella made out of pink, green and white paper, under which the rest crowd and sing the following couplet, relating to the wife and daughter of Husein :—

> "*Bano ne Sakinah se kaha, Tum ko khabar hai? Baba gae mare!*"
>
> "Bano said unto Sakinah, Have you heard that your father is dead?"

"This party in turn yields place to a band of pipers and drummers, accompanying men who whirl torches round their head so skilfully that the eye sees naught but a moving circle of flame ; and they are succeeded by Musalman men and boys disguised as Konkani fishermen and fishwives, who chant elegies to Husein and keep the rhythm by swinging to and fro small earthen pots pierced to serve as a lamp. The last troupe, dressed in long yellow shirts and loose turbans, represent Swami Narayan priests and pass in silence before the glittering simulacrum of the Martyr's tomb.

"The most curious feature of the Muharram celebration is the roystering and brawling of the *tolis* or street-bands which takes place for two or three nights after the fifth day of the month. Each street has its own band ready to parade the various quarters of the city and fight with the bands of rival streets. If the rivalry is good-humoured, little harm accrues ; but if, as is sometimes the case, feelings of real resentment are cherished, heads are apt to be broken and the leaders find themselves

consigned to the care of the police. It is difficult to see the connection between these brawling street-companies and the lamentation for Hasan and Husein; but the rivalry between the various *mohollas* recalls the free fighting which used once to take place between the various quarters of Gujarat and Kathiawar towns during the Holi festival, while the beating, shouting and general pandemonium evoked by the *tolis* are probably akin to the extravagance once practised at the beating of the bounds in Scotland and are primarily designed to scare away evil-spirits from the various quarters of the city. The *tolis* are indeed a relic of pure Hinduism,—of aboriginal spirit-belief, and have in the course of centuries been gradually associated with the great Muhammadan Festival of Tears. Originally they can have had no connection with the Muharram and are in essence as much divorced from the lamentation over the slaughter at Karbela as are the Mummers, the Nal Sahebs and the Lords of the Conchshell (*Sain Kowra*) of the modern celebration from the true Muhammadan who wanders back from the sea-shore uttering the cry of grief,

"*Albida, re albida, ya Husein albida* !"

"Farewell, farewell, ah ! my Husein, farewell !"

The Muhammadans of Bombay observe several fairs, which follow the lunar calendar and therefore vary in date from year to year. Leaving aside the great Mahim fair[1] the chief ones are :—the Malanggad Urus on the 13th of the month *Muharram* (February) in honour of Haji Abdul Rahiman or Bava Malang, which takes place at Malanggad in the Kolaba District and is visited by large numbers of Bombay Muhammadans; the Matunga fair which takes place at the Shrine of Sheikh Misri in Sewri on the 11th of *Shavval*; the Jangli Pir fair which takes place in the north of the island on the 14th *Jamad-ul-Akher;* two fairs at Colaba, one on the 16th *Rajab*, the other on the 10th *Shavval*, in honour of two Pirs who are buried there; the Surti Moholla fair, in honour of Sheikh Bahaudin Chishti and Karim Shah, which takes place on the 14th *Safar*; the Pir Pav fair on the 13th of

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[1] For account of the Mahim Fair see Places and Objects of Interest.

Rabi-ul-avval; and fairs at Sonapur, Gauli Moholla, Khandia Moholla, Jamli Moholla, Chauki Moholla, Dongri, at Bori Bandar (behind the Victoria Terminus) in honour of Bismillah Shah, a Portuguese convert to Islam, and fairs at the shrines of Haji Ali and Mama Hajiyani (Mother pilgrim) near the Hornby Vellard. At most of these fairs interest centres round the tomb of the Saint in whose memory the fair is held and thither fare Muhammadans of all denominations to make vows or offer thanks for good fortune. Outside the shrine are stalls and booths of every description, designed to attract the attention of the crowd, while the children of the community spend a happy day flying kites or taking rides on the merry-go-rounds and swing-boats.

Another feature of Bombay Muhammadan life is the musical club, where a company of friends will meet together to pass the time in playing and singing, varying the amusement with games of cards, *shatranj* (draughts), *dama* and *chausar*. Occasionally the members of these clubs collect a subscription among themselves and arrange a gala-night, to which friends from outside are invited, a nautch-girl being usually engaged on such occasions to give her repertoire of songs. There are again other clubs, composed of men who claim to be poets (*Shair*) and who meet together to read and recite verses of their own composition. So life passes for the Muhammadans of Bombay,—the days of toil pleasantly varied by festivals and fairs; and even when business is brisk and the day seems hardly long enough for the settlement of the myriad details of work, they never forget to devote a certain period of the morning and evening to prayer which is better than sleep.

Of the night side of life in the city much might be written. Wander down this street and watch the hated *Hijdas* (eunuchs) clapping their hands in the manner peculiar to them. The Muhammadan shop-keeper hears them and without a word hands out a coin as a bribe to them to pass along. Thus, and in other less reputable ways, do these human anomalies earn their livelihood; for, although the public shuns them as a class, they are

permitted to take a part in such festivals as the Muharram and are even called in at the time of child-birth to sing songs and act as scarers of the evil-spirits which are ever abroad on such occasions. The professional visionary or sight-seer is also a feature of urban life. He can throw himself at will into a kind of epileptic trance and while in that condition will answer questions as to the future which the credulous put to him. All manner of persons belonging to the lower classes visit him in his narrow attic, filled with the most pungent frankincense fumes, and for an expenditure of a few annas can obtain guidance as to their future conduct or information of what is happening in distant places. The opium-clubs of the city draw their patrons from widely-differing classes. Among the groups of four or five persons who cluster round the flame in which the opium-juice is burnt before insertion in the pipe you will find Sikh embroiderers from Lahore, Sidis from Zanzibar, Mughals from Persia, tea-shop-keepers, *pan*-sellers, hawkers, Marathas, Native Christians and men from Gujarat; for the opium-club destroys all caste-prejudices and renders the votaries of "the black smoke" careless of social obligations. Perhaps the most pitiful sight of all is the streets where the women cluster like caged birds behind the bars, awaiting the meagre wage of shame. They are largely Mhars from the Deccan or Dheds from Gujarat and hold a very different and far lower position than the trained Naikins, the Marwadi, Bene-Israel and Musalman dancing-girls who live in some style in the neighbourhood of Kalbadevi road and Grant road and are engaged to sing in private houses or at public native entertainments. Many of the latter have been well grounded in Urdu and Persian classics and freely spend the comparatively large incomes which they earn in singing and dancing in charity and on religious objects. They are formed into a regular *jamat* or sisterhood, presided over by one of the older members of the class, and in addition to participating in the ordinary festivals of the faith which they profess are wont to give entertainments known as *jalsa*. On these occasions a dancing-girl will invite all her personal friends in the *jamat* to her house and after feasting them avishly

calls upon them in turn to sing and dance. This latter portion of the entertainment is open to the public and the money received from those present is regarded as the private perquisite of the organiser of the *jalsa,* who susbsequently divides the amount between herself and her *Ustads* (musicians) in the proportion of 10 annas and 6 annas respectively in the rupee. According to her means each dancing-girl supports 3 or 4 musicians, who accompany her songs on the *saringi* and the drum. They are given lodging and food and a certain fixed proportion of the earnings and in return perform various minor services for their patron. Excluding the pure Naikins of Goa and Kanara there is a tendency among Hindu and Bene-Israel dancing-girls to style themselves Musalmans and even embrace the Musalman faith, in consequence possibly of the fact that a Muhammadan, no matter what his or her caste or class, is always assured of decent burial after death and can count upon other Muhammadans in the same *moholla* or street to arrange that the death-ceremonies are properly performed. The life of the city at night has many strange features. In Madanpura the Sidis may be found indulging in one of the noisy revels, which constitute their only relaxation, and which have the effect of working them into a state bordering upon frenzy. They have four chief dances, which are said to be of African origin and, when properly performed, to induce the spirit of divination. They are danced to the accompaniment of a shrill pipe and quaint drums, shaped like a cannon with a parchment-mouth, astride each of which members of the company sit, while the rest of the Sidi *jamat,* first men, then women, and then both sexes together, dance round them for three or four hours. At intervals a bundle of straw is lighted, and the heads of the drums are pushed into the flames to tighten up the parchment. In the middle of the dancing-circle stands the Sidi *Patelni* or head-woman of the tribe, now beating time to the rhythm of the music, now encouraging the dancers with loud words of approval or slapping a drummer to arouse his failing energy. As the night advances the professional shampooer or *masseur* commences his rounds, uttering

his peculiar cry to warn the wakeful householder that for the modest sum of four annas the wanderer will induce sleep by gently kneading the muscles. At another point one may hear the echo of the luck-songs which are chanted through the livelong night on the occasion of a birth or marriage, and in yet another direction the long-drawn cry of the wandering Fakir, who begs the wherewithal to carry him to Mecca, greets the ear. During the hot season when the houses are too hot to sleep in, the pavements of the city are crowded with sheeted forms, each lying as nearly as possible with the head towards the north for fear of the anger of the Pole-star. For in the words of an old adage :

"*Kibla muaf karta hai par Kutb hargiz nahin !*"

"The Kibla forgives, but the Pole-star never !"

The Parsis.

The life, customs, and history of the Parsis of Bombay are so well-known that no special description of them seems required[1]. Let it suffice to remark that the customs of even the lower classes have undergone an immense change during the last hundred years. Formerly early marriage was a common characteristic, with its accompaniment of strife between the mother-in-law and daughter-in-law, and in spite of a general feeling against polygamy it was not uncommon for a Parsi of the eighteenth and early nineteenth centuries to marry a second wife during the life-time of the first. The medical skill of the community, which is now so well-known, was at that date in its infancy ; and, following the Hindu belief, most diseases were regarded as spirit-possessions to be obviated and exorcised by the aid of Brahmans and Musalman Sayads. This was particularly the case with hysteria, which was very prevalent among young women as a result of ill-usage[2]. The Parsi dress has also undergone a great metamorphosis during the last fifty years, and most upper-class Parsis have adopted the European

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1 For a full account of the Parsis consult :—Heber's Journey III, 98 ; Trans. Bomb. Lit. Soc. I ; Bombay Times of 25th January 1853, 22nd February 1866 and 24th December 1883 ; Dosabhoy Framji's History of the Parsis ; Bombay Gazetteer, IX, Part II, (Gujarat Population) ; Les Parsis by Miss Menant.

2 K. N., Kabraji's reminiscences in the *Times of India*, 1902.

style of raiment. "In the course of two generations" writes Mr. K. N. Kabraji, "the head-dress of the Parsis has undergone various changes. The orthodox turban of old was a heavy bundle, consisting of many yards of cloth wrapped round the head. The weight of the turban was accounted a measure of the dignity and respectability of the wearer. One can get an idea of it from the portraits now extant of the progenitors of the Dadysett, Wadia, Banaji and other families. But the burden was after all too heavy to bear, and a reduction in weight was gradually made until at last the head-dress took the form of mere skeletons of turbans, made of cloth mounted on pasteboard. Subsequently Parsi merchants from China introduced a round faced turban with a facing of a particular kind of silk cloth. Again the distinguished poet and orientalist, Mulla Pheroze, put on a round *phenta* or shawl wrapped round a blood-red cap, and this fashion was readily adopted by the young. It has undergone quite a transformation in recent years, having been greatly reduced in bulk and weight. At present it is made up of the English hat (*i.e.*, the hard black or brown felt hat) with a ring round it in place of the customary brim. In the old days Parsi turban-makers drove a very good business, among them being Jamsu Pagadiwala, well-known for his skill in conjuring, and Dady the hunchback who in spite of his physical deformity was a skilful gymnast."

Parsi drama is a growth of not more than sixty years, its first promoters being young Elphinstone College students. The Parsi knowledge of the dramatic art was borrowed from the Hindus, who entirely composed the companies playing in the early portion of the nineteenth century. At the present date more than one company of Parsi artistes has acquired a well-deserved reputation among the theatre-goers of the city : but with the exception of one company all the female roles are, in accordance with Hindu custom, played by Parsi youths and boys.

The first definite notice of the Parsi community in Bombay appears to be the statement of Streynsham Master, made within three years from the date of the cession of the island by the Portuguese, which runs as

follows:—" Here is also some Parsees, but they are lately come since the English held the Island and are most of them weavers and have not yet any place to do their devotion in or to bury their dead."[1] During the 18th century very large numbers of Parsis immigrated into Bombay and to them was largely due the development of the trade of the port. The first Parsi to visit China was Hirji Jivaji Readymoney in 1756, and he was followed by Jamsetji Jejeebhoy, who made four voyages prior to 1807. In 1780 the Parsis in Bombay numbered about 3,000 ; but this number was augmented by a great immigration from Gujarat in 1790, consequent upon a severe famine in that area. By 1811 the community numbered more than 10,000, possessed landed property, and were partners in most of the big mercantile firms as well as ship-builders and ship-owners. The 19th century witnessed the further progress of the community in professional and commercial occupations, and since 1865 they have played a leading part in developing the mill industry. The social progress of the community was indirectly responsible for the passing of two special Acts in 1865, the Parsi Marriage and Divorce Act and the Parsi Succession Act. The community possesses 4 Atash Behrams, 35 Agiaries and 7 Towers of Silence in Bombay city.

Houses.

The character of the houses in Bombay has undergone a considerable change during the last century and a half. Fryer described them in 1675 as " low and thatched with oleas of the cocoanut trees, all but a few the Portugals left and some few the Company built. The custom-house and warehouse are tiled and plastered and instead of glass use panes of oyster shells for their windows."[2] When the East India Company had firmly established itself in the island and merchants of various classes commenced to immigrate in large numbers, substantial houses built of durable material and planned to give ample accommodation began to arise in the areas within and without the Fort walls. Mrs.

[1] Diary of William Hedges, Esq., by Col. Henry Yule, printed for the Hakluyt Society in 1888, page cccxvi.

[2] Fryer's Travels.—James Douglas (Bombay and Western India) notes that in 1893 a fair example of the old-style Bombay house could have been seen in Cowasji Patel street, Fort, at the back of the Hongkong and Shanghai Bank Building.

Graham, writing of Bombay at the commencement of the nineteenth century remarked that "the dwellings of the rich natives are surrounded by verandahs, equally necessary to guard against the intemperate heat of the sun and the monsoon rains. They are generally painted in flowers and leaves of a green or red colour; those of the Hindus have usually some of the fables of their mythology represented on their walls. The houses are necessarily of great extent because, if a man has twenty sons, they all continue to live under the same roof even when married. The lower classes content themselves with small huts, mostly of clay and roofed with cadjan, a mat made of the leaves of the palmyra or cocoanut tree plaited together. Some of these huts are so small that they only admit of a man's sitting upright in them and barely shelter his feet when he lies down. There is usually a small garden round each house, containing a few herbs and vegetables a plaintain tree and a cocoanut or two." Most of the upperclass dwelling-houses of this date outside the walls had one storey only, but were fairly lofty,[1] while the height of houses within the Fort was strictly limited by Regulation III of 1812. The public buildings were more useful than elegant; the richer natives lived in large houses built very close together; while the dwellings of Europeans which were planned as far as possible on Western lines with wide verandahs were on the whole not so comfortable as the villas which they erected in and around Mazagon, Parel and Mahim, and to which they were accustomed to resort during the hot season.[2] Bishop Heber speaks in 1824 of the houses in the Fort being "large, handsome and generally of three or four storeys high with wooden verandahs supported by wooden pillars projecting one above another. The pillars and fronts of the verandahs were beautifully carved." House-rent at this date was roughly half what it was in Calcutta.[3]

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1 Da. Cunha's Origin of Bombay, p. 4.

2 Forbes' Oriental Memoirs, I, 152.

3 Captain Seely's Wonders of Ellora. Mrs. Elwood (Narrative of an Overland Journey, 1830) also mentions "the wooden houses with their wooden verandahs, venetian blinds and heavy sloping roofs, covered with tiles, giving them a Swiss rather than an Oriental appearance."

M. Fontanier, who described a journey in India in 1844, gives a somewhat idealistic account of the houses of Bombay at this date.[1] " L'île de Bombay " he writes " a huit milles de longueur sur quatre de largeur, et est coupée en tous sens par des routes bien entretenues, sur les bords desquelles les maisons se succèdent sans interruption. Il n'est pas difficile de distinguer celles qui sont habitèes par les indigènes de celles où vivent les Européens et quelques riches marchands du pays. Les premières sont de petites huttes rapprochèes les unes des autres, dont les murs sont couverts en nattes, tandis que les autres entourèes de jardins, placèes de la manière la plus avantageuse, meubleés avec luxe, gardent en même temps un apparence de fraîcheur et de simplicité rustique. L'entrée est ordinairement décoréé de pavillons, de colonnes, de voûtes recouvertes de plantes grimpantes d'une magnifique verdure émaillée des plus belles fleurs. Pendant la nuit des lampes nombreuses brûlent dans la galerie qui ceint les habitations, aussi bien que dans les salles toujours ouvertes, et ces illuminations leur donnent l'apparence des palais dècrits dans les contes de fèes." Many of the houses built about the middle of the nineteenth century had a wooden framework, and in some cases the walls were wholly of wood. The insecurity of these structures resulted during the ten years ending 1862 in a great many accidents which were not wholly obviated by the introduction of building laws. Subsequent to the Share Mania the old style of Bombay house commenced to disappear in response to the ever-increasing demand for accommodation, and the local capitalists and builders began to erect houses divided into a plurality of compartments without any consideration for air or light. The last fifty years have been characterised by an enormous expansion of the residential area, by the occupation of many privately owned frontages at Colaba, the Fort, Chaupati, Walkeshwar, and Cumballa Hill, and by the multiplication of lofty and many-storeyed buildings; while the outbreak of plague in 1896 resulted in the flight of the rich and better-class population to healthier

[1] Voyage dans l'Inde II.

outlying localities and in the evacuation of the busier quarters of the city by all save those whose daily work obliges them to live there. In 1872 the number of occupied houses was 22,214; in 1881, 28,315; and in 1901, 30,125.[1]

According to the census of 1906, there were 33,267 occupied houses and 10,633 unoccupied houses in Bombay. The sections actually containing the largest number of houses are Mahim, Varli and Sion; but Chakla, Kamathipura, Bhuleshwar and 2nd Nagpada are marked by the greatest density of houses per acre. The average number of houses per acre in these sections is 15 and the average number of inmates per house in Bombay is 30.[2] Bungalows are most numerous in Walkeshwar and Mahalakshmi, chawls in Byculla, Khetwadi, Girgaum, Mahalakshmi, Tarwadi, Parel, and Varli; Mandvi and the Market contain a very large number of houses used partly as godowns; while Mahim, Varli and Sion contain the largest number of huts of a primitive type. These will gradually disappear as the City Improvement Schemes in the north of the island reach completion. According to the census of 1901 nearly half the total number of houses, whether chawls, huts or dwellings of a better class, contain a ground-floor only; those with one or two upper floors number about 12,000; those with three and four upper floors number respectively 3,000 and 2,000; while 618 comprise five floors and 76 comprise six or seven floors. Storeyed houses, which are built rather for the benefit of the owner's pocket than with an

[1] The rapid increase in rents and the overcrowding in the city have also resulted in late years in driving the middle-classes out to the suburbs, where many large houses and chawls have been erected. This is peculiarly noticeable between Bandora and Borivli on the B. B. and C. I. Railway and between Kurla and Thana on the G. I. P. Railway.

[2] No classification of houses was attempted in the census of 1906. According to the census of 1901 the 38,843 houses in the island were composed of 1,605 bungalows; 3,505 chawls; 19,929 dwellings of other types; 723 houses used partly as dwelling and partly as godowns; 47 churches; 142 masjids; 313 temples; 32 fire-temples; 1,496 shops; 77 dharmashalas; 5,705 sheds or huts used as dwelling; 748 huts used as shops; 96 mills; 372 workshops; 42 dispensaries; 23 hospitals; 1,104 godowns; 96 schools; 2 sanitarial 8 theatres; 1,721 stables; 292 offices; 213 tents; and 551 *chaukis*.

Distribution and density of population.

At the census of 1906 the most thickly populated portions of the island were found to be Kumbharwada, 2nd Nagpada, Khara Talao, Chakla, Kamathipura, Umarkhadi, and Bhuleshwar, which contain more than 500 persons per acre. The Market and Dhobi Talao sections contain between 300 and 400 persons to the acre, while less than 50 per acre are found in Upper Colaba, Fort South, Esplanade, Walkeshwar, Mahalakshmi, Mazagon, and the four most northerly sections.[1] The Hindu population predominates in all sections except eight. Of these 2nd Nagpada, Khara Talao, Umarkhadi and Chakla are chiefly occupied by Muhammadans; the northern portion of Dhobi Talao and the Fort are in favour with middle and lower class Parsi families[2]; while Upper Colaba and the southern portion of the Fort are the chief European centres. Subject to these remarks it is impossible to definitely localise any one community, though certain areas have for many years been regarded as the home of certain distinct classes. Hindu ascetics of all classes, for example, haunt the neighbourhood of the Walkeshwar and Mahalakshmi temples; the Goanese and Native Christians are firmly attached to Cavel, the old home of some of the earliest converts to Roman Catholicism; the Musalman hand-weavers known as Julhais or Jolahas congregate in Madanpura between the Ripon and Morland roads; the Bene-Israel who have given a name to Samuel street and Israel Moholla are more numerous in Mandvi, Umarkhadi, and Dongri than elsewhere; many dancing-girls reside in Khetwadi, in Foras road and in Falkland road; Parsis and Hindus of the middle-class have of recent years taken to residing in flats in the western portion of Khetwadi; in the neighbourhood of the Umarkhadi Jail and close to Ripon road dwell many Sidis or African Musalmans; the industrial population is specially numerous in Parel, Byculla and Nagpada; and the several Kolivadis of the island

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1 For reasons as to varying density see Municipal Commissioner's Report on the Census of 1906, p. 23.

2 Since plague attacked the North Fort section, many Parsi families have removed to Grant road.

from Colaba to Sion shelter the descendants of the aboriginal colonists of Bombay. The Jains cling to Mandvi and the Market; Arabs are numerous in Byculla; and in Girgaum are the Prabhus and various classes of Brahmans. Since the first appearance of plague in 1896, an increasing number of Bhattias and several rich Muhammadans have deserted the business-quarters of the city and taken up their residence on Malabar Hill. The whole city is now undergoing gradual transformation, and signs are not wanting that certain classes of the population will, ere many years have passed, have moved their present area of residence. It seems for example probable that the middle-classes will eventually find more suitable accommodation in the northern sections of the island which are now in process of acquisition by the City Improvement Trust; the upper classes, particularly the Europeans, who now find great difficulty in obtaining suitable accommodation, will perhaps find relief in the reclamation of the western foreshore of the island; while the whole of the central belt of the island between Grant road and Naigaon Cross road will thus be reserved for the industrial and lower classes. The population by sections is shown in Appendix III to this Chapter. In 1906 the harbour, railway and homeless population jointly numbered 32,240.

The net variation in the population of Bombay City and Island during the period 1872—1906 is recorded at + 333,417 or 51·7 per cent., of which more than 20 per cent. were added between 1872 and 1881. The sections which have increased in population by more than 100 per cent. are Mahalakshmi (471 per cent.), Byculla (172 per cent.), Tarwadi (161 per cent.). Parel (241 per cent.), Sewri (258 per cent.), Sion (164 per cent.), Mahim (118 per cent.) and Varli (592 per cent.). These sections occupy an extensive area, and the increase is primarily due to the expansion of the mill-industry. But for the appearance of plague in 1896 and its annual recurrence since that date the population of the City and Island would certainly have reached 1,000,000 during the last decade.

According to the census of 1901 of 479,786 male population about 57 per cent. were married, 39 un-married

Age, se[x] and civil con[-]dition.

and 4 widowed. Of 296,220 females 52 per cent. were married 30 un-married and 18 widowed. According to age periods it appears that children under ten years number about 119,000 (or 14 per cent. of the total population) and are in nearly equal proportion by sex. In other age periods the proportion of females to males is between 50 and 60 per cent. and the percentage to the total population which the different age periods of both sexes bear is 8 between 10 and 15, 62 of persons between 15 and 40 and 16 of persons over 40.

The general proportion of females to 1,000 males was 649 in 1872; 664 in 1881; 586 in 1891; 617 in 1901; and 595 in 1906. This proportion varies considerably in years of famine or scanty rainfall when women from Gujarat and the Deccan immigrate in search of work, and on the other hand is liable to be upset by a rise in the plague-mortality which induces many men to send their wives back to the villages of the mainland. The practice of leaving the family in the village is also responsible for the low proportion of married females to 1,000 married males, which in 1901 was recorded at 573. The proportion of unmarried females to 1,000 unmarried males in the same year was 466 and of widowed females to widowed males was 2,460. The high proportion in the last named case is due to the prevailing prejudice against the remarriage of widows. Social reforms however are beginning to make a little headway among the Hindu population, and albeit widow-remarriage has not so far met with very general support, early marriage has been largely discountenanced. This is particularly noticeable among the Prabhus whose daughters not infrequently reach the age of 16 or 17 before they enter the bonds of wedlock.

The male and female population is most numerous between the ages 20 to 35, while those of 40 years of age and more form the smallest proportion of the total male and female population. A very considerable infant mortality serves in some degree to diminish the population at the earliest age-period, while the diminution at the last age-period is due partly to the fact that urban residence with its insanitary conditions does not tend towards the prolongation of life and partly to the practice in vogue

of sending the aged or infirm home to the villages up-country.

Language. In Bombay, with its unrivalled geographical and mercantile position, a greater variety of languages is to be found than in any other city. At the census of 1901, 62 different dialects were recorded, and of these the principal are Marathi, spoken by 51 per cent. of the total population, Gujarathi (including Cutchi) spoken by 26 per cent., Hindustani by 15 per cent., and English by 2 per cent. The language of the island is primarily Marathi, which varies appreciably according to the caste which speaks it. Thus the Marathi of the Kolis differs from the Marathi of the Vadvals, Sonars, Prabhus and Brahmans, while Konkani Marathi or Gomantaki, though really a dialect of Marathi, is classed by many as a separate language. In the Marathi of the Kolis the sibilant *sa* is often changed to *ha* and the palatal *cha* and *chha* to *sa* and *sha* respectively, so that *savkar* becomes *havkar*, *chinch* (tamarind) becomes *sis*, *chor* (thief) becomes *sor*, *chhatri* (umbrella) becomes *satri*, and *chamade* (leather) becomes *samde*. In words beginning with a conjunct consonant, the compound is resolved, *e.g.*, *parán* for *pran* (life), *shirimant* for *shrimant* (rich); while in the case of conjunct consonants of pure Prakrit origin the soft guttural is occasionally changed to the corresponding soft palatal. Thus *ambe ghya* (take mangoes) becomes in the mouth of the Koli *amba jya*. Again the Kolis, Agris and Bhandaris of Bombay invariably substitute the words *jun* and *á* for the instrumental and possessive terminations *ne* and *cha*, so that *tyané* (by him) becomes *tyajun* and *majha* (mine) becomes *mdá*. Konkani or Gomantaki, which is spoken by Goa Christians, Shenvis and Sarasvats, has several peculiarities and a distinct vocabulary.[1] For the possessive termination *chá* they substitute *cho* and for the accusative and dative *la* the termination *ka*: whence *mala* (to me) and *tumcha* (yours) become *maka* and *tumcho*. Sonar Marathi is spoken by Sonars, Sutars,

[1] Murphy mentions a dialect of Marathi spoken by the Native Christians of Salsette, Mahim, Matunga and Mazagon, "which enters very largely into the language spoken by the Kolis, Bhandaris, Palshes, Prabhus, Panchkalshis, Vadvals." This was probably Konkani (Trans. Bomb. Geog. Soc., 1836-38, Vol. I.).

Kasars, Tambats, Khatris and Panchals. One of its chief peculiarities is the use of the words *hai* and *nai* for *ahe* and *nahi* and of *i* for *oi*[1].

Prabhu Marathi is a mixture of Marathi, Gujarathi and Hindustani words, to which have been recently added many English words such as *desak* (desk), *waskit* (waistcoat), *tebal* (table), *bakas* (box), *tool* (stool), *jakit* (jacket), *islet* (slate), *iskol* (school), *istik* (stick), *ishtakin* (stockings). These words are in constant use by the Pathare Prabhus and by the Panchkalshis who resemble the Prabhus in most respects. The Brahman Marathi of Bombay may be divided into the following three classes, *viz.*—(*a*) that spoken by the Palshikars or Yajurvedi Brahmans of Bombay, (*b*) that spoken by the Chitpavans and other Brahmans from the Konkan, and (*c*) that spoken by the Deccani or Deshasth Brahmans. The language of the older members of the Palshikar community resembles the ordinary Marathi of the 13th century[2], while that of the Brahmans from the Konkan is remarkable for a superfluity of *anunasik* or nasal accents. In the Marathi of the Deccan, which is regarded as pure Marathi, the tendency is to eliminate such accents as far as possible. Education, both primary and secondary, has made such progress in the city during the last fifty years that the younger generations of all classes can now speak and write pure idiomatic Marathi. Marathi is also largely spoken by Bene-Israelites, Native Christians and Konkani Muhammadans.

The Gujarathi language, as spoken in Bombay, may be divided into five classes, *viz.* (*a*) Ahmedabad Gujarathi, (*b*) Surat Gujarathi, (*c*) Marwadi Gujarathi, (*d*) Cutchi Gujarathi and (*e*) Parsi Gujarathi. Of these, the first named is regarded as the purest. Cutchi and Marwadi Gujarathi contains a mixture of Cutchi and Marwadi words, while Parsi Gujarathi is a mixture of Gujarathi, Hindustani, Persian and English. Gujarathi, besides serving as the ordinary tongue of the Gujarathi Hindus, is

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[1] Vishnu becomes Isnu, *Ishwar* (god) becomes *Isvar*, and *vishvas* becomes *iswas*. The dropping of the semi-vowel is found in all forms of popular Marathi.

[2] For details see Edwardes' Rise of Bombay.

also spoken by the Bohras, Khojas and Parsis. It is *par excellence* the mercantile language of Bombay, and many Muhammadans of the trading-classes are bi-lingual from their birth, speaking Hindustani in their houses and using Gujarathi exclusively in their daily occupations.

Hindustani is spoken by the Memons and Pathans and by the Pardesis and other Hindus from Northern India. The Marwadi dialect of Rajasthani is spoken by about 7,000, while about 7000 and 2300 respectively speak Telugu and Tamil. Arabic is spoken by 2200, Persian by 3000 and Portuguese by 4000. English, which is the home-tongue of 17,213 persons, has made rapid strides during the last twenty years, and it is not uncommon to find even persons of the lower classes, such as the Kolis, Agris and others, possessing a sufficient knowledge of this tongue to enable them to work as press-compositors, printers, supervisors of building-works and clerks. Marathi predominates in 22 sections of the city, Gujarathi in 6, English in one (Fort, South) and Hindustani in one (2nd Nagpada).

Birth-pla[ce].

The subjoined table shows the places from which the population of Bombay City is chiefly drawn :—

BIRTH-PLACE.	1872.	1881.	1891.	1901.	1906.
Bombay City ...	200,613	214,685	205,732	181,834	203,692
Bombay Presidency.	355,437	456,586	488,938	477,650	636,974
Other Provinces in India	61,325	69,619	110,037	101,085	} 137,156 (Other Provinces in India to Other places)
Asia excluding India	5,757	7,907	6,467	6,304	
Europe	4,950	6,023	7,663	7,707	
Africa	1,275	619	736	694	
America	87	114	170	162	
Other places ...	14,961	17,643	2,021	570	
Total ...	644,405	773,196	821,764	776,006	977,822

Of the total population about 21 per cent. only, according to the census of 1906, are born within the city, while about 65 per cent. belong to Districts and States within the limits of the Bombay Presidency. The largest contributories are Ratnagiri and Poona, while a considerable number hail from Satara and Kathiawar. Surat, Cutch, Thana, Kolaba, Ahmednagar and Goa also con-

tribute an appreciable portion of the population. The native of Ratnagiri, who as a rule does not bring his womenfolk with him, is chiefly engaged in the cotton-mills, in the docks as an unskilled labourer, and in menial and domestic service. The Cutchi is usually a trader, while those from Surat serve as domestic servants, merchants, priests or writers. The Goanese are for the most part in domestic service; the Deccan districts and Kathiawar provide the city with unskilled labourers; while the natives of Rajputana and Central India are chiefly traders and those from still more northerly tracts serve as messengers, watchmen and warehouse-guards. Of persons actually born in Bombay, the largest number are found in the North Fort, Chakla, Umarkhadi, Dhobi Talao, Khara Talao, Sion, Mahim and Varli. Ratnagiri contributes to nearly all sections, and in the largest numbers to Phanaswadi, Girgaum, Mahalakshmi, Byculla, Mazagon, Parel and Varli; the Poona District supplies a considerable portion of the population of Mandvi, Dongri, Kamathipura, Byculla, Tarwadi and Mazagon; while the most favourite sections of the natives of Satara are Kumbharwada, Khetwadi, Byculla and Varli. Kathiawar is represented by a population of nearly 70,000, most of whom reside in Chakla, Umarkhadi, Market, Bhuleshwar, Kumbharwada and Khara Talao. In spite of the fact that the progress of trade and the rapid expansion of Bombay are responsible for immigration into the city on a very large scale, a certain amount of emigration also takes place, as is proved by the fact that in 1891 and 1901 the number of natives of Bombay City resident in the Districts of the Presidency was 23,039 and 24,425, respectively.

Occupation. The general distribution of the people according to occupation is shown in Appendix VI at the end of the chapter. About 22 per cent. of the male and 76 per cent. of the female population are not engaged in any definite occupation. The occupations which claim the largest number of persons in Bombay are employment in cotton spinning and weaving mills, general labour, and personal household and sanitary services, which support respectively 11 per cent. 9, and 8 per cent. of the

total population, and during the last three or four decades the percentage of the first class has steadily increased in consequence of the growth of the mill-industry. Commerce, transport and storage, food drink and stimulant preparers and suppliers claim 4 per cent. each. The mendicant population numbers more than 11,000 and finds ample encouragement to increase its numbers in the systematic provision of money and food for the poor which characterizes the Muhammadan and Hindu merchant population; while in seasons of famine the professional begging population is augmented by the arrival of hundreds of persons from all parts of the Presidency who, in default of securing temporary employment, take to regular mendicity. The industrial population of the city numbers 319,273 or roughly 41 per cent. of the total population, the commercial population 65,558 or 8 per cent. and those engaged in the professions 45,816 or 6 per cent.

According to the census of 1906, when only a few occupations were selected for tabulation, 28,000 persons were returned as bankers, accountants, salesmen, clerks, etc., 55,000 were returned as shopkeepers, general dealers, hawkers, etc., 117,000 were dependent upon the mill-industry, 99,000 upon general labour, and 60,000 were engaged in domestic service of various kinds. The total number returned as actual workers was 5,89,000 (including 86,000 females).

Factory Operatives.

Of the mill-operative population[1] about three-quarters are Hindus belonging to the Konkani and Deccani Maratha, the Teli, the Kumbhar and the Bhandari communities The remainder of the mill-population is drawn from the Julhai Musalman community of Northern India, from the Konkani Muhammadan community of the western coast-line, and to a small extent from the Pardesi or North Indian Hindu community. These various communities evince a predilection for a particular kind of work, and rarely will a member of any one of

[1] The average daily number of operatives employed in the factories of Bombay in 1907 was 126,000, of whom 100,000 were males, 23,000 women and 3,000 children.

them be found engaged in any other branch of labour than that in which his caste-people have become specialists. The Julhai Muhammadans, for example, work as a rule in the weaving department only, while their women are employed in the colour-winding branch of the reeling department: the Konkani Muhammadan is usually a fireman or an oil-man: the Pardesi Bhaya has a predilection for carding: while the Maratha from the Deccan is always ready to perform lascar's work in lifting heavy weights and is usually discovered in the mixing department. The Konkan Maratha, on the other hand, is found in every department of a mill in which skill and intelligence are requisite, and as a rule avoids employment in the engine, boiler, or mixing rooms. Konkani Maratha women are very largely employed in the reeling and winding departments.

Mill-hands distinguish various types among themselves. There is firstly the model hand, who is steady, sober and regular in attendance, to whom the smallest increase in wages is a boon and who is always ready to perform overtime work. Second comes the substitute or *badliwala*, who fights shy of fixed employment; third the *athawada* or seven-day man, so called from his habit of working seven-days on end and then taking a week's respite from labour; fourth the *mowali* or Bohemian mill-hand, who works and rests as the fancy takes him and is prone to vice; and lastly the *dada* or member of the vagabond and hooligan tribe, who is quite as lazy as the *mowali* but far more dangerous and troublesome. As a rule the mill-operative is at the scene of his labours by sunrise and works till 8 a. m. when a female relative brings his breakfast to the mill. These women are very careful that nobody shall touch them while they are carrying the food and do their best to avoid crowds. At this hour too the tea-hawker may be seen moving about in the different departments, selling his beverage to the hands at a pice per cup. For the modern mill-hand is a habitual tea-drinker and cannot forego his morning cup at 9 and his afternoon cup at 3. The half-hour recess is usually spent in chatting or sleeping, after which nearly 20 minutes more are wasted in lounging

about the mill. At about 2 p. m. the men leave their machines to take their tiffin or lunch which consists usually of the remains of the morning-meal, and after another spell of work for 2 hours or so the mill-hands commence to leave their posts on pretence of drinking water, smoking or for various other excuses. The authorities of most mills maintain spare-hands who during these breaks on the part of the regular operatives attend to the machines which cannot be left idle. The Konkani mill hands are notorious for their unsteadiness. They cannot under any circumstances stand comparison with those of Lancashire. They are mostly cultivators whom the pinch of poverty has driven from their fields in the Konkan to Bombay. Their attachment to their native country is however so great that though they are much in debt and all their small holdings are in the hands of the *Savkar*, they are prepared to pay heavy interest rather than part with the land. The raw recruit begins his career by messing as a boarder with some other mill hand. The period during which he is learning his work is very trying and he has to put up with much privation and incur debt before he is able to earn wages on his own account. The indifference of the mill hands is proverbial ; they rarely care to render themselves expert in their craft ; and they are loath to accept improvements, preferring antiquated machines to which they have grown accustomed.[1]

The mill-hand is notorious for irregular attendance. This compels mill-owners to keep a number of spare hands known as *badliwalas*. To enforce regularity in

[1] The *Times of India*, of 27th July 1906, contained the following comparison between the wages and work of an Indian and Lancashire mill-hand :—

	Lancashire.	India.
Operatives per 1,000 spindles ...	4·2	30
,, ,, 100 looms ...	4·4	90
Average annual outturn of yarn per operative	7,736 lbs.	3,700 lbs.
Average annual outturn of cloth per operative	37,740 yards.	14,000 yards.
Average weekly hours of work.	$55\frac{1}{2}$	80
Average monthly wages per operative	Rs. 81	Rs. 13

attendance the men's wages are always kept a month in arrears. One frequently comes across hawkers in the vicinity of mills on the last day of every month shouting "Notees—no-o-o-tees!" The *noticewalla* is indispensable, for he helps to prevent forfeiture of the men's wages for want of the legal month's notice for leaving service. The holding back of wages has little effect; for owing to the high price of the necessaries of life and the scarcity of labour the men can easily command higher wages elsewhere. The fact of their not only maintaining their families but helping their relatives and friends in their native country leaves no doubt as to the liberal scale of their remuneration. The wants of an average Indian mill-hand are limited; he can therefore easily afford to indulge in luxury at times. A mill-hand rarely works in the mill to an advanced age. This tendency towards early retirement to his native village is yet another reason for the lack of trained and efficient labour. Jobbers and *Mukadams* who derive good incomes cling to their posts up to the age of 50 to 60: and some of these mill-officers have spent over 30 years of their lives in mills. The total income of a mill-hand including the earnings of his wife and children amounts to about Rs. 30 a month; and yet as compared with a clerk on Rs. 15 he is in a chronic condition of poverty. For he is by nature prone to extravagance and has to hand most of his earnings over to money-lenders, who may often be observed grouped near the mill-gates on pay-day. He is also somewhat of an idler and spends his holidays in roving about, in sleep, and in gambling. Drink and gambling are the two chief vices that beset the Bombay mill-hand.

The chawls in the vicinity of mills are the usual abodes of the mill-hands. The rooms in a typical chawl measure about 12′ × 8′ × 8′ with an open verandah 3′ wide running the entire length in front. Every room is divided by one partition only, the inner portion being used by females generally and the outer room with its verandah by the males. No *nahani* or sink is attached to these rooms; and the approaches to the chawls are therefore as a rule filthy with pools of undrained and stagnant sullage dotting the place and breeding mosqui-

toes. There are one or two water taps not far off the latrines where the inmates gather together for the purpose of filling their water-chatties, scouring their pots and washing their clothes. This part of a chawl is invariably dirty. The children are allowed to commit nuisances anywhere on the roadside. The only ventilation which these dwelling places have are a door and a window. The size of the door is about $5' \times 2\frac{1}{2}'$ and of the window $2' \times 3'$. As a rule the window is kept shut whilst the inmates are there and the room is always full of smoke. The *chula* or hearth is in the inner compartment. In every room two or three families are huddled together, generally numbering from 10 to 15 persons excluding children. Some years ago a room of these dimensions could be rented for 3 or 4 rupees; rents have since risen to Rs. 6 per room, and overcrowding has proportionately increased. To secure a small convenience or additional space for lying down the occupants of these rooms sometimes extemporise a *mach* (a bamboo platform) to the height of about 4′ as a sort of sleeping berth. In the cold and wet seasons the inmates of these chawls manage to sleep in the rooms and in the verandah, but in the hot season they make free use of the roads and the foot-paths as their dormitory.[1]

The furniture of a mill-hand consists of rough deal wood boxes with padlocks and iron-plate trunks, about half a dozen in all, littering the sides of the rooms. A few bamboo sticks suspended horizontally by cords at each end near the ceiling and in the verandah serve for hanging clothes, bedding and bundles of nick-nacks. The bedding is a mere blanket *(ghongadi)*. The handy bamboo is further used for drying wet clothes. A worn-out mat of date leaves is spread on the floor for friends and visitors to sit upon. Sometimes the blanket covers the floor as a special mark of respect to the visitor. The richer mill-hand owns in addition a bench and a chair in a dilapidated condition. These are exhibited on the

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[1] For a graphic account of these dwellings, see *Times of India* of 18-5-1903 under the heading "Plague haunts:—Why the poor die."

verandah. Cheap chromo-lithographs representing scenes from Hindu mythology decorate the walls. Food is cooked in brass-pots, which are seldom if ever tinned, and is eaten from brass plates (*pitli*). The *karanda*, a small round brass basin fitted with a lid, is an indispensable adjunct of the mill-hands' life. In this the food is carried to the mill by the female relative, while the lid serves the purpose of a drinking-cup. The *karanda* is carried as a rule in a net bag (*shike*) which may be seen hanging to a peg in a workman's room. Each family also owns a few *lotas* and a few brass cups, and one or two low stools (*pats*) consisting of a piece of planking with a batten at either end on which they sit when taking their meals at home. Earthen pots are used for storing grain, spices and salt fish, while water is stored in large copper basins (*handa* and *ghagar*). A curry-stone and a grain-mill are also items of household furniture. Rock-oil in open tin lamps is generally used for lighting-purposes. The furniture of a Muhammadan mill-hand is very similar but is usually more neatly arranged and includes a hookah. The daily food of the mill-hand consists of curry and rice and *patni* (coarse rice) bread, the curry being generally made of salt fish. In the absence of curry, cheap vegetable preparations and *dalpani* are used to moisten the rice and bread. The Konkani mill-hands keep as a rule to this diet, while the Deccani is partial to the use of *bajri* bread and a pungent preparation of *dal*, known as *sunka*. The Pardesi or Hindu from Northern India prefers a diet of *chapattis*, *dal* and *ghi* and eats only once a day after leaving the mills in the evening.

The female mill-hand, who is employed in the reeling and winding department, is adept at picking a quarrel and possesses a fine vocabulary of abuse. Among new terms of abuse, which have crept into use since the first outbreak of plague, is *tula goli jhali* (*i.e.*, you have got the bubo). Fortunately quarrels are not frequent on the mill premises. In accordance with a common custom in Bombay, mill-hands have names of their own for various mills, which bear no resemblance to the real names. Thus the Star of India Mill is called the "*Khatara* mill" owing to its noisy machinery; the

Union Mill, the *Bin Chimnichi Giran* (chimneyless mill) or *Bhangi Giran*; the Murarji Gokuldas Mill is known as the "Joot Mill"; the Hongkong Mills as the *Tabelyachi Giran*, owing to the proximity of municipal stables; the Great Western Mills as the *Juni Bycullachi Giran*; the City Mills as *Nawi Bycullachi Giran*; the Standard Mills at Dadar as *Akhandbari Giran*; the Khatao Mills as *Sakli Talayachi Giran*; the Greaves, Cotton Mills as *Dagadachi Giran*; the Jamshed Mills as *Baithi Giran* (one floor mill); the Jam Mills as *Patryachi Giran* (the roof being made of iron sheeting); the Alexandra Mills as *Telachi Giran*; the India Mills as *Mulmulchi Giran*; the Jacob Sassoon Mills as *Navi Suparibagh*; and the Saraswati Mills as *Juni Suparibagh*.

Labourers.

The labouring classes in Bombay, other than mill-hands, usually hail from the Deccan and are both Hindus and Musalmans. The Konkani Hindu, who is less muscularly efficient than the Deccani, is prone to eschew labour in the docks and roads. Bombay labourers fall naturally into the four classes of (*a*) *Naoghani* or *Naoghana*, (*b*) *Mathadi* or *Hamal*, (*c*) *Bigari* and (*d*) *Helkari*. The *Naoghani* is a skilful workman, trained to deal with heavy loads and experienced in the manipulation of pulleys or blocks and always to be trusted for work that requires nerve. He is also known sometimes as a "bamboo-cooly." The *Mathadi* will be found at work in godowns, on railway-platforms and bandars, where heavy goods have to be lifted and removed. The *Bigari* performs all manner of miscellaneous work. He helps to carry loads, dig trenches, fill and empty carts; he is employed on building-work, in the coal-sheds at the docks, and not infrequently develops into a mason or carpenter. If a native of the Deccan the *Bigari* often develops into a *Naoghani*, while if a native of the Konkan he gets himself employed in course of time in a mill or factory or perhaps takes to menial service in a mercantile office. The *Helkari*, who lives from hand to mouth, haunts the market and railway precincts on the look-out for a job as porter and carrier of messages and light burdens.

The rise in prices which has taken place in Bombay during the last quarter of a century has affected

the labouring-classes of Bombay to an appreciable extent, in spite of the fact that they now earn larger wages than formerly, and many of them are in debt to their landlords and boarding-housekeepers. A certain number of Konkanis, known as Bankotis, are employed as menials in Hindu households and are somewhat highly-paid, their wages having risen by 50 per cent. and more during the last thirty years.[1] In spite of this fact, however, they evince a tendency to relinquish domestic service in favour of employment in mills and factories. Towards the approach of the monsoon every year a considerable exodus of labourers takes place. The majority of the emigrants are Konkanis ; but an appreciable number of Ghati or Deccan Hindus also return to their villages to help their relatives in agricultural operations. The busy season for labour in the city lasts from February to about June, when much house-repairing work is in progress and the owners of new buildings under construction are eager to complete their work before the arrival of the monsoon. In many cases the wives and children of the labourer help to support the family, by working in the mills and as coal-carriers in the docks or by hawking fruit and vegetables and keeping petty retail-shops. A few perform domestic work in Hindu houses for a short time in the morning and evening and spend their leisure hours in grinding grain for others.

Christian Missions and Dioceses.

Denominations.	Europeans.		Eurasians.		Natives.		Total.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
Anglican Community..	6,260	2,354	785	716	407	358	7,452	3,428
Methodist	254	115	44	39	50	206	348	360
Presbyterian	209	61	1	3	22	20	232	84
Roman Catholic ...	1,788	831	913	748	18,202	9,529	20,903	11,108
Minor Denominations.	286	115	6	3	379	292	671	410
Denominations not returned	...	...	...	...	99	81	99	81
Total...	8,797	3,476	1,749	1,509	19,159	10,486	29,705	15,471

[1] Among Parsis the word Bankoti has become a synonym for an idler or worthless person.

The Christian population of Bombay City according to the census of 1906 was 48,508 or 5 per cent. of the total population. Of these 14,328 were Europeans and of allied races 13,911 were Eurasians and 30,223 Native Christians. Their distribution by race and denomination is shown in the preceding table.

During the 17th century the English in Bombay had no church, the only place of divine worship being two rooms in the Governor's House within the Fort.[1] Nevertheless the East India Company professed special care for the religious instruction of their servants and despatched strict orders that the Sabbath should be regularly observed. They also enclosed a form of special prayer "which taught their servants in the first place to implore the divine favour for their Honourable Masters and in the second place for their Honourable Masters' favour for themselves." The main objects of the prayer were such temporal blessings as are included in the promises made to the Patriarchs under the old dispensation. There was also a significant and suggestive allusion to the Factors' honesty, virtue and general behaviour as Christians. Divine service was held twice a day at Bombay and all the Factors were required to be present.[2] Similar precepts were issued by the Court of Directors in 1754 as regards their servants, but proselytism of any kind was sternly discouraged and regarded as an offence. Dr. Taylor, the first Missionary, who arrived in 1807 was not permitted to stay upon the island and a similar prohibition was extended to three American Missionaries who arrived in 1811. They managed, however, to secure the required permission from the Court of Directors in 1814 and commenced their work by opening a school. The nineteenth century witnessed the gradual expansion of the Church of England in Bombay. A society for building churches was established, ministers were brought out from England, religious societies were

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[1] See Article on St. Thomas' Cathedral (Places and Objects of Interest). For early account of the propagation of the Christian religion, ministers and their ways see Diary of William Hedges, page cccv (1671).

[2] Bombay Quarterly Review, 1855, p. 185.

formed, schools were opened, and the Bible was translated into Marathi under the auspices of Church of England Missionaries. By Letters Patent of the 1st October 1837 Bombay was created a diocese of the Established Church of England under the Bishop of Bombay. The Bombay Ecclesiastical district includes the seven stations of Bombay—Matheran, Bandora, Thana, Broach, Surat and Baroda, and is in charge of a staff of five Chaplains. Excluding St. Thomas' Cathedral, the chief churches in Bombay are Christ Church at Byculla, St. Johns' Church at Colaba, and All Saints' Church, Malabar Hill.

The Church of Scotland in Bombay was placed upon its present basis in 1837 by 3 and 4, William IV. Before the passing of this Act, however, the Directors of the Company in conjunction with the General Assembly of the Church of Scotland constituted in the Presidency two ecclesiastical charges, one in 1815 and the other in 1823. Both the senior and the junior chaplain were stationed in the City of Bombay until 1859 when the number of chaplains was increased to four, which is the number now entertained. The senior chaplain, styled the Presidency Senior Chaplain, is on duty in Bombay City.

Up to the year 1534 the government of the Roman Catholic Church in Bombay was vested in the Archbishop of Funchal, Madeira. But on the 3rd November in that year Pope Paul III issued a Bull which created Goa a bishopric with jurisdiction over all Roman Catholic churches from the Cape of Good Hope to the confines of the East, and vested the patronage of the See in the Sovereign of Portugal as Grand Master of the Order of Christ. On the 4th February 1557 Pope Paul IV issued a fresh Bull raising Goa to the dignity of an Archiepiscopal See, and by virtue of this Bull and the eleventh article of the treaty of cession of Bombay the Archbishop of Goa was vested with jurisdiction over Bombay Island. A Vicar Apostolic of Bombay, a nominee of the Pope, was subsequently appointed to act in direct communication with the See of Rome, independent of any temporal power. The territorial limits of the Vicariate Apostolic of Bombay were the sea on the west, the Archdiocese of Goa on the

south, the Vicariates Apostolic of Hyderabad and Vizagapatam on the east and the Vicariate Apostolic of Agra on the north. The first Vicar Apostolic, A. F. Matheus de Castro, was consecrated at Rome in 1637 under the title of Bishop Chrysophilis in Arabia Petrœa[1]. The appointment was necessitated by the enormous number of conversions which had taken place through the proselytising zeal of the Jesuits and Franciscans in Bombay and the comparatively thriving condition of the Roman Catholic parishes into which the island was divided. In 1718, the Portuguese friars of Bombay were discovered to be intriguing against the Company's Government and were in consequence expelled from the island; and the Carmelite Superior of the Italian Mission at Surat was requested by the Governor of Bombay to take charge of the episcopal affairs of the island. He however for some reason never visited Bombay, and in 1732 the Vicariate of Bombay was bestowed upon Fra Pedro de Alcantara under the title of Bishop of Arepolis in Asia Minor. He held charge of the vicariate until 1786 when in consequence of a representation from the Portuguese Government in Lisbon the Court of Directors ordered the spiritual jurisdiction over the churches in Bombay to be restored to the Archbishop of Goa.

Acting on these instructions the Archbishop of Goa took charge of the parish churches of N. S. de Esperanca, N. S. de Salvacão, N. S. da Gloria, San Miguel and the Chapel at Sion, and issued orders prohibiting the Italian Carmelite Friars from performing divine service therein unless they acknowledged his authority and swore obedience to him and his successors. This request the Carmelite Friars complied with and took the required oath on the 15th May 1789 in the church of N. S. de Esperanca. The change however was distasteful to a large number of the Roman Catholic inhabitants of Bombay, and they submitted several petitions against it to the Bombay Government, which were in due course forwarded to the Court of Directors.[2] The latter, believing that the

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[1] He was a Brahman Convert and on return to India built two Churches at his own expense. He died in Rome in 1668.

[2] Bombay Gazetteer Materials, Part III, 535.

petitions emanated from the entire Roman Catholic population and that they were unanimously averse to the jurisdiction of the Archbishop of Goa, directed that these Carmelite Friars should again be given control of the churches on the island.[1] Accordingly in 1791 the senior Carmelite Friar in Bombay, also named Pedro de Alcantara, took charge of the churches, under the designation of "Vicar-General in charge of the Mission."

Subsequently and up to 1886 the supervision of the Roman Catholic churches in Bombay and Western India was shared between the Archbishop of Goa and the Vicar-Apostolic of Bombay, the former being appointed by the King of Portugal subject to confirmation by the Pope and being subject to the Government of Portugal, and the latter being directly nominated by the Pope and acting in direct communication with the See of Rome. In 1886 Daman, which was previously subject to the Archbishop of Goa, was constituted a bishopric, the Vicariate-Apostolic of Bombay was created an archbishopic, and Poona was raised to the dignity of a bishopric. The ecclesiastical province of Bombay consists of the archdiocese of Bombay and the suffragan see of Poona; and the archdiocese of Bombay comprises the city and island of Bombay, Gujarat north of the Narbada, Cutch, Rajputana, Sind and Baluchistan. Spiritual jurisdiction in Bombay over Roman Catholics is divided between the Bishop of Daman, representing the Padroado, and the Archbishop of Bombay, representing the Propaganda de Fide. The chief churches under the former are those of Our Lady of Glory, Our Lady of Health, of the Holy Cross, of the Sacred Heart, of San Miguel and the National church; while under the latter are the church of Our Lady of Hope, St. Annes, Our Lady de Rozario, the church of the Holy Name and three Chapels.

The chief events in the history of Christian Missions in Bombay were the arrival of two American Missionaries and the foundation of the Bombay Bible Society in 1813; the foundation of the Bombay Branch of the Church Missionary Society in 1818; the institution of a local committee of the Society for the Propagation of the

[1] Proclamation of Court, August 2nd, 1791.

Gospel and of a Christian Mission School Society in 1825; the translation of the New Testament into Marathi in 1826; the foundation of the Bombay Tract Society in 1827; the foundation of the Scotch Mission in 1828 and the arrival of Dr. Wilson in 1829; the arrival of Mr. Candy, the first S.P.G. Missionary, in 1836; the opening of the Methodist Episcopal Mission in 1872; the arrival of the Society of St. John the Evangelist in 1876; and the opening of the Wesleyan Mission in 1886. In 1890 a Missionary settlement of University women was founded, and in 1897 a church for the Tamil-speaking population was opened at Dharavi.

The Society for the Propagation of the Gospel founded a Bombay committee in 1825, the originator of the scheme being Archdeacon Barnes and the first members of the committee being the Governor, the Judges, the principal Civil, Military and Naval officers in Bombay, and Bishop Heber. On the death of Bishop Heber the Society requested Government to establish a bishopric in Bombay, which was eventually carried out, and the first Missionary of the Society arrived and opened an orphanage and destitute asylum in 1838. In 1840 the Holy Trinity chapel in Sonapur was opened and the Mission was formally taken charge of by the Bombay committee of the Society. The object of the Mission, which is now known as the Indo-British Institution, was defined to be the promotion of the Christian education of the Indo-British community of the island of Bombay and Colaba but not to the exclusion of other Christian classes of the population nor of those not actually resident in the two islands. By 1850 the Mission had so far prospered that its support was entirely defrayed from local sources aided by an endowment fund to which the parent Society contributed. Natives, speaking Marathi, Tamil and Hindustani, were being ministered to in their own language in 1865; and a special Muhammadan Mission was started in 1872. In 1866 a mission to the Tamil Christian population was founded in Kamathipura, which is in charge of a Tamil Mission Church opened at Dharavi in 1897 for the benefi of the Tamil-speaking employés of the tanneries and of an Anglo-Vernacular school opened in 1903 and now (1907)

containing about 25 pupils. The Society is represented in Bombay by 4 missionaries and 2 native catechists, engaged in evangelistic work.

The Society of St. John the Evangelist despatched two representatives[1] to Bombay in 1873 in response to the invitation of Bishop Douglas. For several years the Society confined its work to the Eurasian population of Mazagon; but in 1882 the centre was removed to Umarkhadi and the work of the Society was extended to all classes of the population in that area. Church services were at first held in the compound of the Mission house in Babula Tank road, but in 1898 the Church of the Holy Cross was opened. In the compound adjoining the church medical work is carried on at a dispensary in charge of Dr. Miss Bradley, who also superintends three schools, chiefly for non-Christian children, namely, the St. Andrew's Vernacular school with 150 pupils, the St. Andrew's Anglo-Vernacular school with 50 pupils, and the St. John's Night High School with 150 students. A Sunday School is held in connection with the two first-named institutions. Connected with the Society is the All Saints Sisterhood, which maintains an orphanage at Mazagon and carries on minor industries for women, such as needle-work and lace-making. The Sisterhood also manages a hostel for women. The Society of St. John maintains hostels for men and boys at Mazagon, which are practically self-supporting, and a free library at Umarkhadi. Nearly 350 Christians belong to the Mission.

The Wesleyan Mission commenced work in 1886 and is entirely dependent upon the efforts of Indian agents. It maintains 5 schools with 200 pupils, 6 Sunday schools with 250 pupils, and an orphanage at Mahim, opened in 1901, in which the pupils, numbering 30, are taught various trades. The number of converts is 130. The Methodist Episcopal Mission, with its headquarters in Mazagon, holds services in Marathi, Gujarathi and Hindustani, and supports a large number of Zenana workers; while the Salvation Army, with its headquarters near Victoria Terminus, does practically no native mission work in the city. The Missionary Settlement for Uni-

[1] Father Page and Father Biscoe.

versity women was founded in 1896 and works among non-Christian women and girls of the educated classes and also among women-students. The staff consists of 4 women, who co-operate with the Young Women's Christian Association and superintend a hostel for women-students. The Alliance Mission in Gowalia Tank road holds Marathi services in the mission-bungalow, but performs no active missionary work in the city. The Bombay Auxiliary to the British and Foreign Bible Society was organized in 1813 and contented itself at first with the issue of the Scriptures in English, Hindustani, Arabic and Syriac. In 1819 the first Marathi Bible was completed and issued, and in 1880, at the instance of Dr. Mackichan, a revision was undertaken which is now (1907) nearing completion. The earliest Gujarathi translation of the Bible appeared in 1817, and the latest in 1903. During the year 1906 nearly 67,000 copies of the Bible were sold in the Bombay depôt of the Society. The Young Men's Christian Association carries on mission work among the educated classes of Indian students and clerks and rents rooms on the Girgaum road in which lectures and bible-classes are held. Open-air preaching is also carried on at Church Gate station. In 1890 a branch of the Association was organized in Byculla for the benefit of Indian Christians, the members of which number more than 200.

The Church Missionary Society commenced work in Bombay in 1820 and established the Robert Money school in 1835. In 1855, the year in which the present school-building was completed and opened, the Reverend G. Deimler arrived in Bombay and commenced work among the Muhammadan population. This branch of the Society maintains an English school, church and lecture hall. In 1869 the Girgaum church was opened, in which services are held in English, Marathi and Gujarathi. The Marathi-speaking converts, who are in charge of a pastor of their own, maintain a hostel for boys, and the Gujarathi-speaking converts are similarly formed into a branch congregation with an offshoot at Bandora. The Society also maintains a boarding-school for girls and a vernacular and anglo-vernacular school

and training class for teachers in connection with it. The staff of the Society in Bombay consists of 3 European missionaries, 1 European lady-helper, 1 pastor, 1 lady pastor, 6 catechists, 19 schoolmasters, and 7 female teachers.

The American Marathi mission was founded in Bombay in 1813 by the Revd. Gordon Hall and the Revd. Samuel Nott, who had been expelled from Calcutta by the East India Company. The Bombay Government, in view of the fact that England and America were then at war, also ordered them to leave the island but subsequently cancelled their order. The two Missionaries then set to work to found the mission church, which was eventually organized and opened for the first time in 1827. For nearly thirty years from that date the services were held in the upper storey of a building in Jail road, Umarkhadi, the ground floor being used as a printing-press. In this building the Bombay Branch of the Free Church of Scotland was organized after the famous disruption between the Free and Established Churches of Scotland. From 1855 to 1905 the headquarters of the mission were located in a building erected in the former year on a plot adjoining the site of the first church; and in 1903 the Revd. E. S. Hume secured from the Bombay City Improvement Trust the present site on New Nagpada road. The present church was opened in December, 1905. The American Mission has organized a Church Sunday school, attended by 750 pupils; a Christian Endeavour Society which preaches, distributes tracts and visits hospitals; a Poor Fund; and a missionary branch at Lalitpur, Central India. The Committee of management of the American Marathi Mission consists of the missionaries of the station, the pastor, 3 deacons, the secretary, the treasurer, the auditor and four members annually elected by the general body of converts. The total number of the Christian community of the church is 631. The Mission maintains a High School, which was originally founded in 1877 and is divided into three sections, the Marathi school, the middle school and the high school. Connected with the school are two dormitories, the Fiske Hall for boys and the Bowker Hall for girls.

In the Marathi school the pupils number 101 and those in the other two sections 141. The total number of boarders is 216, of whom 101 are girls. The principal industries taught to the boys are laundry-work, organized on the latest American methods, carpentry, sewing and type-writing, while the girls are trained in needle-work of all kinds. The school secured a silver medal for the work done by its pupils at the Surat Industrial Exhibition of 1907. Attached to the school are a library, reading-room and literary society. Besides this school the mission maintains a Blind School, opened in 1900 and attended by 26 boys and 19 girls, a Girls' School at Parel established in 1887 and containing 80 pupils, a Girls' School at Narelwadi opened in 1897 and containing 60 pupils, a Poor House School at Byculla established in 1879 and attended by 18 pupils, a Girls' School at Jacob's Circle, established in 1888 and attended by 59 pupils, the McKinley Boys' School at Jacob's Circle, established in 1888 and attended by 44 pupils, and a Primary School at Byculla established in 1906 and attended by 55 pupils. The mission has played an important part in the field of religious literature and has rendered valuable help in the translation of the Bible. It has also produced two editions of the New Testament, various Christian tracts in Marathi and a considerable number of school-books in the same language. The mission supports a printing-press and publishes the *Dnyanodaya*, an anglo-vernacular weekly, the *Balbodh Mewa*, a monthly periodical for children, and the Indian Evangelical Review. In 1897 a dispensary for women and children was opened at Byculla, in which up to the present date more than 60,000 patients have been treated.

Caste and Tribe.

At the census of 1901 eighty main castes and tribes were recorded. The most numerous and important are shown in Appendix VII at the end of this chapter. The four most numerous Hindu castes in the city, with a population of more than 20,000, are Marathas, Mhars, Vanis or Banias and Brahmans. The Marathas are composed chiefly of Maratha Kunbis and are known in the city under the general appellation of Ghatis or men from above ghats. They are natives of the Deccan where many of them still

own fields, but have left their ancestral homes in search of the permanent and highly-paid work which the city offers. The expansion of industry and the progress of trade demand ever fresh labour, which is supplied by a full tide of Ghati immigration. The Ghati has no ambition but to work. Of frugal habits, simple tastes and the fewest possible wants, he is satisfied with a small area of ground in which to shake off the day's toil in sleep, and is perfectly content with two simple meals a day and a sufficiency of Manchester cotton fabrics to furnish him with a full wardrobe of one *pagadi*, two *bandis*, and two *dhotars*, to which he adds a rude grey woollen blanket which serves both as a bed and a covering. He may have a preference for a particular kind of labour but his choice of employment is chiefly influenced by the presence or absence of friends and relatives in a particular gang and by the vicinity of the work to his domicile. After working for some little time he may have saved a few rupees, and with a balance to his credit his field of selection expands. He may choose between a cotton or grain godown, approved service in which may by the favour of the *shet* lead to promotion to the post of *mukadam* or overseer. Or he may choose a mill, foundry, smithy, workshop, liquorshop or other kind of shop, in all of which he is certain of a regular monthly wage. The Ghati is a dock-labourer, water-carrier, fireman, smith, drain-cleaner, bottle-washer, domestic servant, groom, peon, *dhobi*, bullock-cart driver, cook, musician, victoria-driver, policeman and *khalasi*; in a word he is an aid in every business and in every industry in the city. Go where you will, you cannot escape the ubiquitous Ghati. Even the wandering European finds in him a guide, interpreter, philosopher and friend. Wherever he is employed he is always useful and his labour is fully worth the wage he receives. In the bandars, docks, and great godowns of the city his best qualities are seen. He manages heavy loads of bales, bags, machinery, timber, with the intelligence and skill of one to the manner born and his physical powers of endurance during the hottest weather have often excited the wonder and admiration of his employers. The Ghati labourer subsists on *bajri chapattis* helped down with

some condiment or *chutney* of which chillies are the chief constituent. Rice and fish are rare dishes and mutton is rarer still. And yet he thrives upon his frugal fare, saying in his own terse language that on a *bajri* diet he can carry a heavy load 15 or 20 miles a day, on a wheat diet 10 miles, and on a rice diet 5 miles. He owns no furniture except possibly a small wooden box and all he requires in the way of accommodation is a narrow space to lie down in at night. If unmarried he boards with a family which cooks his meals for him and charges him from Rs. 2 to Rs. 4 per month for board, lodging, water and halalkhor service. If his wife is in the city with him, she helps by earning a daily wage or by performing domestic work for persons of the middle class, and even the children are employed to add a little grist to the Ghati mill. Where the Ghati fails is in respect of marriage and religious ceremonies, upon which he wastes so much money that he remains in debt until the end of his life and has no margin to fall back upon in the event of sickness or the oft-recurring desire to revisit his ancestral village. It is not the frugal diet and hard labour but this unfulfilled desire to look once again upon the old home that so often saps the vitality of the Ghati, and particularly of the women. The debility engendered by continuous fretting for a sight of the wind-swept uplands of the Deccan is intensified and augmented by the very insanitary conditions under which the Ghati labourer lives. That visit to the scenes of his boyhood is the one pleasure of the Ghati's life, if we except his musical recreation after nightfall, when he and his caste-mates gather together in the dark, ill-smelling passage of a chawl and sing their monotonous chants to an accompaniment of cymbal-clashing and tom-tomming. The chief wealth of the Ghati labourer in Bombay is his stock of labour carts and bullocks, and with a pair of sound bullocks behind him he is a power in the trade of the city. He gives little in intelligence to commerce, but in physical power he gives a full measure of service for a scanty wage. He is not a master in the body politic, nor is he simply a consumer, for he returns by his labour two grains for the one he has eaten as his remuneration. He is docile and obedient and is not

addicted to the worst vices of the European labouring classes. His permanent motto, earned by years of honest toil, must be "The labourer is worthy of his hire." [1]

The Mhars and Dheds number 47,000. They work chiefly as labourers and scavengers, and a certain number are employed as domestic servants by the European population. The Dheds of Gujarat are usually known as Suratis, *i.e.*, people from Surat. Their number is increasing.

The Vanis or traders number about 43,000, their chief sub-divisions, with a population of more than 2,000, being the Lohana (10,000), the Komti or Vaisya (6,000), the Bhattia (5,000), the Kapol (2,500). Known as "Baneans" to early western voyagers, the Vanis appear to have controlled from the earliest ages the commerce of India with the countries bordering the Persian Gulf and Indian Ocean, and at the present time are almost entirely employed in trading, shop-keeping and broking. The Lohanas, who are supposed to take their name from Lohanpur or Lohakot in Multan or more probably from the district of Lamghan in Eastern Afghanistan come from Cutch and Kathiawar and are for the most part grain-dealers and shop-keepers; while the Bhattias, who are also denizens of Cutch but many of whom have taken up permanent residence in Bombay, are concerned chiefly with the export trade in cotton, seeds and other agricultural produce, and also deal in general merchandise and broking. As a class they are extremely diligent and, placing very little faith in ordinary school education as a mean towards gaining a livelihood, they usually introduce their male children to commerce at an early age. [2] The

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[1] The Ratnagiri Marathas work in mills and as domestic servants to the Hindu population of Bombay. In mills they earn Rs. 20 to Rs. 30 per month, their wives and children Rs. 8 to Rs. 10 and Rs. 5 to Rs. 6 respectively. Domestic servants earn Rs. 3 to Rs. 6 with food and perhaps lodging also free. For further account of Ratnagiri Marathas see Occupation section of this chapter. For further details see Bombay Gazetteer, Vol. X, p. 121.

[2] For further details see Bombay Gazetteer, Vol. IX, Part I, p. 116. Sir Bartle Frere commented in 1875 upon the keen commercial instinct and success of the Bhattias. For full caste details see Journal, Anthropological Society Bombay, Vol. VI.

Kapol Vanis are said to have originally come to Bombay from Kathiawar in the seventeenth century, since which date they have acquired a high reputation in the city as sound and progressive traders. The Komtis are Banias from the Deccan, and, claiming like all Vanis to rank in the four-fold caste-scheme of Manu, they often style themselves simply Vaishyas.

The Brahmans, who number more than 30,000, comprise Gaud Sarasvats or Shenvis (5,000) Konkanasthas or Chitpavans (4,000), Audichyas (3,000), and Deshasthas (2,000). A full account of these several divisions is given by Sir James Campbell in the Bombay Gazetteer. They are employed in Government, Municipal, Railway and mercantile service and also belong largely to the legal and medical professions. A considerable number perform the duties of the Hindu priesthood. The Sonars (goldsmiths), who style themselves Daivadnya Brahmans, number about 8,500.

A special account is given below of the following communities, which have an ancient historical connection with Bombay and which still form a recognised portion of the population:—The Kolis, Bhandaris, Panchkalshis, Pathare Prabhus, Bene-Israels and the Konkani Muhammadans.

The Kolis. *Daily life.*

The Kolis of Bombay are very early risers; the women begin their day at 3 a.m. or 4 a.m. with spinning (*sana* or *vak katatata*), and the men commence weaving nets a little later. After 7 a.m. most of the women repair to the bazaar to sell fish, while the men dry and dye their nets, repair their sails, and oil their boats. At 11 a.m. the bath is taken and the household gods and elder members of the family are worshipped,[1] after which first the men and then the women dine.[2] From noon to 3 p.m. the

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[1] The Hindu Kolis worship Mahadev, Hanuman, and Khandoba; and the Christian Kolis worship these and images of Christ and the Virgin Mary as well. A few worship ancestors (Vir) and are known in the community as Virkar in opposition to the Devkar who worship only Christian and Hindu gods. The oldest members of the family, both male and female, are also worshipped.

[2] The ordinary Koli meal consists of curry (*ambat*), rice, fried fish, and rice-cakes. When at sea the men eat dried fish and rice-gruel. On fast days the Christian Kolis subsist on milk and sweet potatoes and on holidays all classes indulge in sweetmeats, *gharya* and *undre*. *Undre* appears to be a Koli name for *modak*

household sleeps; and later the women again repair to the bazaar leaving the men to duties connected with their craft. A second bath is indulged in at 10 p.m. followed by worship of the gods and dinner at 11 p.m.[1] This daily routine is not strictly followed in the fishing season, as everything has to depend upon the tide. They start their fishing expeditions in the early morning.

isions. The Kolis are divided into two main occupational classes: the Dolkars [2] and Sates. The Dolkars [3] do the actual fishing, while the latter, who are confined to Mandvi, purchase the haul wholesale. They usually set forth in boats to meet the returning Dolkars, buy the fish on the water, and subsequently dispose of it on the beach to retail dealers and hotel contractors.

es. The ordinary Koli house comprises a verandah (*oli*) used for repairing nets or the reception of visitors, a sitting-room (*angan*) used by the women for their household work, a kitchen, a central apartment, a bed-room, a gods' room (*devaghar*), and a detached bath-room. The poorest families live in a single room, one corner of which is reserved for the *devara* or gods' stand. The usual furniture of the poorer Kolis is composed of several earthen pots, a rickety cot, a few mats and broken chairs, lamps without chimneys, a grinding-stone, a hubble-bubble, and several wooden boxes. But the rich add sofas, photograph frames, and such other western knick-knacks as are found in the middle-class Hindu homes of modern Bombay.[4]

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and is probably derived from the fact that rats are fond of it, or that it forms part of the usual offering to Ganesh, the rider of the rat (Mushakavahana). Koli women are exceedingly fond of sweetmeats.

[1] The Kolis are as a class addicted to drink, and the evening meal is usually preceded by a visit to the tavern. All Bombay Kolis have of late years adopted tea-drinking, a cup or two of which is always taken before starting out to fish.

The Dolkars are subdivided into Daldis (those who fish on a grand scale), Vagharkars (those who catch the *ghola*), Ravshi (those who catch the *ravas*), and the Vatsad, who are a poor class of fishermen usually in the employ of the richer members of the community.

[2] The name 'Dolkar' is derived from *dol, or dhola* large funnel-shaped net costing from Rs. 150 to Rs. 250. The smaller net, known as *jal*, costs Rs. 10.

[4] Among the most curious features of many Koli houses are the photographs of corpses. They seldom photograph the living,

When at work or when fishing, the Koli wears a rough woollen waistcoat, a red *langoti* or loin-cloth, and a warm close-fitting cap (*kamblichi topi*). A cord, with a knife attached to it, passes round the neck like the Brahman sacred thread. On ceremonial occasions he dons a long white coat (*angarakha*), a red handkerchief or *uparna* for the shoulders, a *langoti*, sandals and the peculiar Koli red hat, with the semi-circular scallop in front.[1] On the occasion of marriage a *mandil* (stiff tall head-dress), a *jama* (a long white robe, fastened under the left arm, *Dress.*

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but if a member of the family dies, his corpse is dressed in gay attire, placed in a sitting posture, and perpetuated by the camera. These will sometimes be seen on the walls side by side with portraits cut from the English illustrated papers. The custom seems to have been borrowed from the Salsette Christians who have followed the practice for many years.

[1] The origin of the Koli red hat has been a subject of much speculation. It is worn only by the Kolis of Mandvi (Bombay), of Thana, of Versova, and of Madh. The Kolis of Revadanda wear flatter hats, the Pan-Kolis wear turbans, while the Kolis north of Bhayandar and Bassein wear the *kantopi* or ear-cap of the Gosavi or mendicant. This last fact perhaps affords a clue to the origin of the Bombay Kolis' hat. In the Gosavi ear-cap the crescent or scallop in front is much larger and in fact forms a semi-circle across the whole forehead from ear to ear, the flaps on either side protecting the ears. Before the conical knitted cap was imported and largely used, the Bombay Kolis invariably wore the Gosavi cap with ear-flaps while out at sea. Then gradually fashion expanded, and the Koli took to wearing upper and lower ear-rings. The ear-flaps thus became troublesome appendages and were usually turned up or folded tight to leave the ears free just as the Bassein Kolis do now-a-days. In due course the flaps had to go, taking with them the large frontal semi-circle. But partly through conservatism, partly because the scallop helps to fit the cap more firmly to the head, the Koli probably invented the smaller crescent -shaped scallop which is now so distinctive a feature of his ceremonial head-dress. The height of the original Gosavi cap is the same as the modern red hat of the Bombay Kolis. The colour and general shape may also have been partly derived from the red velvet caps worn by Shenvi Brahmins in Goa and by Sonars.

Another explanation is based upon the curious mark ℧ which is found at the back of the Bombay Kolis' hat. This, coupled with the fact that the front portion of the hat when worn, forms a curious resemblance to the outstretched hood of the cobra, has led some to suppose that the hat is intended as a rough representation of the cobra's head and denotes the original connection of the Kolis with a Nag-vanshi stock. No modern Koli can give a trustworthy account of this symbol, and although it must orginally have had a definite significance, there is at present too little evidence to warrant absolute acceptance of the theory. It might be worth enquiring whether the mark has any connection with the Sheshkuls mentioned by Mackintosh in his account of the Mahadev Kolis, printed in the Journal of the Bombay Geographical Society, Vol. I, 229.

with tight sleeves), and a *pichodi* (a sash or broad band of the same material as the *jama*) are worn ; and the red hat only appears at a *pat* or remarriage ceremony. [1] Koli women wear a bodice and cotton *sari* drawn up very tightly between the legs. Among the Christian Kolis and Son-Kolis girls do not make use of the upper portion of the *sari* covering the head and breast until they are married. Then on a fixed day the bride is summoned before the elders and the caste *panchayat* and is bidden to cover her head and bosom (*padar ghene*) ; which being done, she is formally blessed by the elders. This final ceremony of admission to the ranks of adult womanhood can only be performed by the *panchayat* of headmen. Bangles are worn on both wrists ; but the *vala* or yellow lacquered bangles, which were formerly worn on the right arm, are now being gradually laid aside. [2]

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In religious matters the Christian Kolis still secretly cling to Hindu practices, [3] and observe the annual pilgrimage to the shrine of Ekvira (at the Karla Caves in Poona District), and of Bhairav at Jejuri. [4] The other chief festivals are those of Gauri (following Ganesh Chaturthi), Shimga and Narali Purṇima (Cocoanut day). [5] On the fifteenth day of the bright half of each month, a day sacred to Khandoba and Ekvira, they never go out fishing. Whenever they visit a distant shrine, they invariably arrange a picnic of extreme joviality close by the

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[1] A Christian Koli bridegroom usually wears a dilapidated Portuguese Admiral's uniform, which is specially preserved and lent out on such occasions.

[2] The male Kolis of Bombay, Madh, Varli, and Trombay do not wear bangles ; while those of Alibag, Versova, Danda, and Mandwa wear armlets on the left wrist. The Son-Kolis wear bangles on both wrists. The Bombay Kolis wear an upper ear-ring (*bali*) and a lower ear-ring (*gathe*). A Christain Koli can always be distinguished from a Hindu Koli by his ear-rings (*kadya*) which are much thinner than those (*gathia*) worn by the latter.

[3] For example, at a Christian Koli wedding 25 women, called Goulanis, are seated in a row in imitation of the 25 Suvasinis at Hindu weddings.

[4] Of recent years, owing to facilities for travel, they journey as far as Benares, Gokarna, Rameshwar, and Hardwar.

[5] No Koli will recommence fishing without offering a cocoanut to the sea on Narali Purnima. This festival is celebrated on a great scale at Versova, Madh and Danda, the officiating priests being always Palshe Brahmans.

temple. Cremation obtains among Hindu Kolis and burial among Christians; but the members of both communities freely attend the ceremonies of either party and pay impartial visits to both temples and chapels. They evince an extraordinary tolerance on religious questions. In cases of sickness they have the greatest faith in the *devata* (family god), but very little in the physician; and they are acquainted with most of the Hindu domestic medicines. In emergency or when faith falters they call in a Hindu *vaid* in preference to a trained medical man. Marriages are celebrated after puberty.

Changes, both in dress and occupation, are taking place, owing partly to education and partly to the difficulty of earning as much as they once did at their ancestral livelihood. Thus the younger generation has largely discarded the *langoti* and red hat and adopts the Agri or Bhandari dress; while those with some little education prefer the work of compositors and clerks to the time honoured sea-traffic.[1] Physically, it is to be feared, they are beginning to deteriorate, although many a well-built muscular man and graceful woman may still be seen among them. They still retain their salient trait of fidelity and will exert themselves to the utmost to help anyone whom they regard as a friend.[2]

The Bhandaris,[3] whose name is derived by some from the Sanskrit *mandharak* (a distiller)[4] and by others from The Bhandaris.

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[1] The Koli Patel of Danda was elected a Municipal Commisssioner of Bandora a few years ago. The Caxton Press has several Kolis among its compositors; and in the Secretariat at least one Koli clerk has been employed, who cannot be distinguished in dress and manners from the members of the ordinary clerical classes.

[2] For further information about the Kolis in general, see Bombay Gazetteer, Vol. XIII, Part I, 165—174; Transaction of the Bombay Geographical Society, I; Edwardes' "Rise of Bombay" DaCunha's "Origin of Bombay," 8, 40, 41. Also for history of the Kolis, see chapters on "History" and "Population (early estimates)". For description of a Koli folk song, see Journal, B.B.R.A.S. 1903, pp. 517, 518. A letter from Bombay to the Court of Directors in January, 1679, described the Coolys (Kolis) of Mazagon as "the lustyest, and best seamen, and an unwearied people in the labour they understand."

[3] For a scientific description of the caste, see Ethnographical Survey of Bombay, Monograph No. 43.

[4] Bombay Gazetteer, Vol. XV, I., 286.

bhandar (a treasury)[1], constitute one of the oldest communities in Bombay island and are sub-divided into five classes, —Sinde, Gaud, More, Kirpal, and Kitte or Kitre,—which neither dine together nor intermarry. Of these the Kitte Bhandaris, who divide themselves into *Hetkaris* and *Upakaris*, are somewhat superior to the other divisions in attainments, dress and manners, and seem to have originally come from the southern Konkan and Goa.[2] They rose to considerable power in Alibag, Chaul and Bassein,[3] and in later years formed a trusty element in the military and naval forces of the Portuguese, Angria and the British [4]. The other four

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[1] Bombay Gazetteer, Vol. X, 124; Risley's Tribes and Castes of Bengal.

[2] The chief religious seat of the *Hetkaris* is at Malvan in Ratnagiri.

[3] DaCunha's Chaul and Bassein, 88.

[4] In 1673 the Bombay forces contained 300 Bandareens (Bhadaris) armed with clubs and other weapons. Edwardes' Rise of Bombay, pp 28-30 *et passim*.

Ethnog: Surv: Monograph. No. 43 gives the following information:—"In a paper read by Mr. Murphy before the Geographical Society he refers to the early settlement of Bhandaris in Bombay Island. As their numbers increased, they carried on war with the Musalman Kings, in which they were helped by the Bhandaris of Champavati or Chaul. It appears that about 1295 A. D. Bimb Raja or Bhimaraja took possession of Bombay with the help of the Bhandaris. The immediate successor of Bhimaraja was dispossessed of his authority by a Bhandari chief, Shetya of Chaul, who in turn was dispossessed by Musalmans. Upon the arrival of the Portuguese the Bhandaris were once more in power and assisted the invaders against the Musalmans. Thereafter at Mahim a Bhandari kingdom was established by Bhongles or Bhandaris. With the help of the Portuguese several petty kingdoms seem to have been established by the Bhandaris on the western coast, and they had for a long time the right of carrying regal ensigns. In this regard a few quotations from Mr. Murphy's paper may be given here:—

"Of the Bhandaris the most remarkable usage is their fondness for a peculiar species of long trumpet called Bhongulee, which, ever since the dominion of the Portuguese, they have had the privilege of carrying and blowing on certain state occasions. Fryer in a letter written from Bombay between 1672 and 1681, describes the Bhandaris as forming a sort of honorary guards or heralds to the Governor, and even to this day they carry the union flag and blow their immense trumpet before the High Sheriff on the opening of the Quarter Sessions. This singular privilege receives considerable illustration from a fact stated in M. S. histories that shortly before the Portuguese occupation of Bombay a race of Bhongule or trumpeter-chiefs seized upon and maintained the Government of Mahim to which Bombay and Salsette were then subject. This then would appear to have been a dynasty of Bhandari princes, whose humble representatives are

divisions[1] give evidence of a less warlike strain and may originally have belonged to that wave of immigration which brought to Bombay island the Panchkalshis, the Malis and perhaps the Agris, with the latter of whom they seem, in respect of appearance and occupation, to have some connection.

Occupation.

It is possible that the two hereditary occupations of the Bhandaris, namely fighting and palm-tapping, may have served in the past to differentiate the Kitte division from the rest, who seem to have inclined chiefly to agriculture and were actually classed by Fryer with "the Columbeens (Kunbis) who manure the soil." The principal occupation of the poorer Bhandaris is still the extraction of liquor from the palm-trees, albeit they have to face the rivalry of the native Christians of Dadar and Mahim ; the rather richer Bhandaris compete with Parsis for liquor-shop and distillery contracts ; while others will be found serving as seamen on country-vessels or as members of the police-force. It is possibly trade-rivalry and the enhancement since 1877 of the palm-tree cess that has led many Bhandaris in Bombay city to become labourers, carpenters, snuff-sellers, printers and decorators. On the other hand education has made great strides among them ; and several have obtained clerical posts under Government and municipal bodies.[2] Those who still follow the here-

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still to be seen blowing their trumpets and carrying their standards in the pageants of another royalty.

"We next have a dynasty of Bhongule or trumpeter-chiefs whom there is every reason for believing to be Bhandaris, since they retain the Bhongulee trumpet and the name of Bhongulees to this day, and still have some privileges in public pageants which seem the faint shadows of former power. The Mahomedans are described as overturning the Bhongulees and again becoming ascendant, and I am to suppose that on the arrival of the Portuguese the Bhongulees or Bhandaris sided with the latter for the expulsion of the Mahomedans and thus perhaps retained those privileges to which there has been no interruption since the dominion of the Portuguese."

See also Lady Falkland's Chow-Chow (1857), p 103.

[1] Of the other four divisions, the Kirpal are those who were converted to Christianity by the Portuguese and were subsequently re-admitted to the Hindu fold. The names Gaud and More seem to have been borrowed from the titles of Kshattriya dynasties (Gaud and Maurya) in the same way as the Kolis have borrowed the surnames of More and Cholke (Chalukya).

[2] A Bhandari has settled as a merchant in America ; a few are serving the British Government in South Africa. One of the first

ditary calling rise at day-break, spend three or four hours in watering and tapping the palms, then carry the liquor to the distillery, and after a siesta return to the oarts for the same purpose in the evening.[1] The women usually busy themselves with household duties only, though a few of the poorest may be found working in factories. As a rule no Bhandari will ever accept domestic service, deeming such work beneath his dignity, nor resort to begging.

es. Food Dress. The chief colonies of Bhandaris are at Mahim, in old and new Nagpada, Khetwadi, Dhobi Talao (Lohar Chawl street), Umarkhadi and Dongri, though a good many have been dislodged from Nagpada and Dongri by the operations of the City Improvement Trust. The style of residence varies with the occupation and status of the family. Thus the toddy-drawer still occupies a thatched, or sometimes tiled hut in the oarts, comprising a sitting-room, kitchen and *deoghar* or god's room, with a small thatched hut attached for the storage of utensils and tools used in the extraction of liquor; others live in chawls; while the richer and better educated rent small houses which they furnish to an increasing degree in the European style. Excepting gourds, earthen-pots and casks, which form his stock-in-trade, the palm-tapper's household effects are much the same as those of the ordinary lower-class Hindu: while his food consists of rice, rice-cakes and fish-curry, and on fast days of milk, sweet-potatoes, and *vari* gruel. The drinking of liquor is contrary to rule and custom. The ordinary Bhandari dress consists of a loin-cloth wound tightly round the waist, a skull-cap of cloth,[2] and occasionally a red waistcoat, while a heavy broad-bladed tapping-knife hangs on the left thigh; but the better-educated affect the *dhotar*, *angarkha*, *uparna* and

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Marathi printing-presses and type foundries in the city was established by a member of this caste; another was proprietor and publisher of the *Phœnix*, a daily paper, at Karachi; and a third was for some years the only wood-engraver in Bombay. Some have earned a reputation as modellers in clay; others own Hindu bakeries and restaurants; while a few have distinguished themselves as Marathi actors and playwrights.

[1]Each Bhandari has charge of about 15 palm-trees, and makes a point of thrice saluting the first tree he ascends daily. The More sub-division are reported to tap only cocoanut trees, while the Gaud Bhandaris tap the *tad* or brab-palm.

[2]Elderly Bhandaris also wear the Gosavi ear-cap (*kantopi*).

turban of the Brahman and other advanced communities.[1] Bhandari women don the ordinary Maratha dress and wear nose-rings and silver armlets of peculiar pattern;[2] while the male ornaments are a silver or gold bracelet worn on the right arm above the elbow and a silver waist-belt (*kargota*). Among the lower classes of the population the Bhandari has the reputation of being a dandy, with his pointed moustache (*pildar misha*), tilted turban (*kangnidar pagote*), and well-fitting coat (*kaildar angarkha*), and is traditionally reported to have lost his exclusive right of hoisting the Union Jack at the opening of the Quarter Sessions by continual unpunctuality resulting from too close an attention to his toilette and personal appearance.[3]

Religious and social characteristics.

The Bhandaris, who as a caste are of medium stature, somewhat fairer and better looking than the Kolis and Agris, speak Marathi in their homes and approximate to the Marathas as regards religious practices. They worship Siva in his various forms of Bhairav, Khandoba, Vetal, etc., make pilgrimages to Nasik, Pandharpur, Benares and other Hindu religious centres, and observe most of the great Hindu festivals. At the Gokul Ashtami festival they play a prominent part, forming themselves into bands and shouting "Govinda, Govinda," and then marching in file with arms linked to smash the *dahi-handi* or curd-pot;[4] while at the Dasara they claim the exclusive right of throwing the first cocoanut into the fire.

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[1] The Brahman turban and *dhotar*, together with the *jama pichodi*, form the recognized attire of a Bhandari bridegroom. In the case of remarriage the *jama pichodi* is not worn.

[2] Among the Kitte Bhandaris, Hetkari women are said to be distinguished from Upakari women by the fact of their not wearing ear-rings.

[3] The date of their loss of this right is put between 1860 and 1870. To this day unpunctuality in an individual is rebuked with the words "Bhandaryani apale nishan asench ghalavile" (In this way the Bhandaris lost their distinction).

[4] The curd-pot is decorated with *nim* and mango leaves, the mouth being filled with a cocoanut, and is hung up at a considerable height. The men mount upon one another's backs until the top man is able to reach and smash the pot. As they march to this ceremony they sing the following song:—

Bhandari Nakhredar Bandhila killa Vairyachya chhativar Paya deuni ala.	=	Bhandari the coxcomb Erected the Fort Over the chest of the foe Trampling he passed.

Some of the older generation are well-versed in Vedant philosophy and during the month of Shravan read daily portions of a *pothi* or book of sacred verse, the conclusion of which is a signal for rejoicing. The priests of the community in Bombay are usually Palshe Brahmans.

In cases of sickness they invoke the family gods, resort to native drugs or take western medicine according to their status: while after death they never permit the corpse to lie on the ground, but prop it in a sitting posture against a triangular bamboo screen specially made for this purpose. Bhandari girls are married after the age of puberty; and widow-remarriage, though not regarded wholly with favour, is permitted. One curious custom in vogue among the orthodcx is the selection of a personal Guru or preceptor, who in former times always belonged to the Brahman community but at the present day may be any devout member of the caste. The chosen preceptor and his pupil stand together under a sheet in a decorated room, to which incense and fruit of various kinds have been carried: the preceptor whispers a few words of advice into the ear of the pupil, who vows to renounce the eating of some species of fruit during his lifetime and to always follow the preceptor's advice: and the ceremony concludes with a feast to all present.

The Bhandari is by nature industrious, honest, and courageous in adversity, but decidedly unthrifty and prone to braggadocio.[1] Of late years they have shewn a very decided tendency to social advancement, and the Kitte sub-division in particular have founded a caste-hall in the Two Tanks locality and two associations which have for their main object the extension of primary education among the boys and girls of the poorer families.

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s.

The Panchkalshis, who are also styled Somavanshi Kshattriyas, are supposed to derive their appellation from the fact that a former headman of the clan sat on a canopied throne, surmounted by five *kalasas* or knobs. This feature is still traceable on the occasion of a caste-marriage, when the bridegroom, who is for the time

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[1] The Bhandari's tendency to brag has passed into the following local proverb:—"*Bayako deil, pan badai denar nahin.* He may give up his wife, but never his pride."

being granted the highest marks of honour, is seated on a *chaurang* or chair of state surmounted by five knobs. Others find a more plausible derivation of the name in the pile of five *kalasas* or pots placed at the door of the marriage-booth. There are grounds for supposing that the Panchkalshis, who are certainly closely connected with the Pathare Prabhus, must at some distant date have separated themselves from that community, the usual reason assigned for the cleavage being some alteration of caste-customs and rites. Putting aside the story of their immigration to Bombay with Bimb Raja as told in the Bimbakhyan, it seems unquestionable that the Panchkalshis formed a portion of the same wave of immigration which, during the Silahara and later epochs, found its way from Gujarat to the island, and that at the time of immigration they were a community of sufficient standing and importance to be vested with definite rights. For some of these rights still exist, while most of their hereditary customs, albeit corrupted by the march of time and by environment, bear traces of an aristocratic origin[1]. Under the rule of the Muhammadans and Portuguese the Panchkalshis were probably deprived of active political power and turned their attention to agriculture, dairy-farming and boat-building. Many of them lost their hereditary lands in the struggles preceding the advent of the British and commenced to practise such trades as those of joinery and carpentry, in which they rapidly became so adept that they have somewhat carpingly been characterised communally as *sutars* or carpenters. The locality near Khetwadi which represents one of the earlier Panchkalshi settlements in the island is still known as *Sutar Gali*, and several members of the caste in these days are expert architects and contractors.

The religious persecution for which the Portuguese Government became so notorious affected the Panchkalshis as well as the Prabhu, Brahman and other communities, and many were forced to fly from Bombay to places like Pen, Panvel, Uran and Chaul, thus perhaps giving rise

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[1] The offices in the North Konkan formerly held by members of the community were those of Sar-desai, Sar-naik, Sabnis, Thakur, Sar-faujdar, and Patel.

to the endogamous divisions of Sashtikar, Vasaikar, and Urankar, which neither eat together nor intermarry. Others were forcibly converted to Christianity and became the ancestors of some native Christian families now resident in Bombay, Bandora and Marole. A few more fortunate contrived to retain their position as Patels, Sarpatels and Desais ; for as late as 1739 A.D. two Panchkalshis, named Bugaji and Gangaji Naik, were granted the village of Anjur in *inam* with the title of Naik Sarpatel by the Peshwa in return for help accorded to the Marathas against the Portuguese. To the Panchkalshi community also belonged the people known in earlier days as Vadvals (from *vadi*, a garden), whose chief occupation was the tending of orchards and gardens, the weaving and preparation of palm-leaves for thatching, and the manufacture of coir-rope and brooms. As the population of the island increased and the old gardens disappeared to make room for buildings, the Vadvals devoted their attention to other forms of employment. At the present day, for example, many Vadvals (agricultural Panchkalshis) are employed in the railway workshops and other manufacturies, some are hack-victoria drivers, and others have chosen clerical appointments.

With the advent of the British power the Panchkalshis commenced to retrieve their fallen fortunes. They were among the first to study the English language[1] and to enter the service of the East India Company and private firms as clerks. Some of them have held lucrative posts in the revenue and judicial departments of Government, and many are the hereditary patels of the villages of Salsette. At the present date the community supplies members to most of the professions—medical, legal, engineering, architecture and surveying ; for it combines with industry and frugality a desire to take advantage of the higher education now available and to rid itself of ancient and retarding social practices. As early as 1779, for example, when symptoms of degeneration in social matters, due to intercourse with more backward commu-

[1] On the foundation of the Bombay Native Education Society in 1822 one Hari Keshavji, a Panchkalshi, took a leading share in the preparation of text-books. He was translator to the Sadr Dewani Adalat and Vice-President of the Dnyan-Prasarak Subha.

nities, made themselves felt, the Mankaris and leading members of the caste met together and passed stringent resolutions on the subject of the prevention of costly litigation, the re-marriage of widows, the sale of girls, and temperance. A good many reforms connected with marriage and other similar ceremonials were carried into effect about twenty years ago, and when occasion has arisen the community has united to prosecute suits in aid of social reform.[1] In the year 1884 the community founded the Kshattriya Union Club for the promotion of education and the charitable relief of the aged, widowed and orphaned.

Language.

The true language of the Panchkalshis is closely akin to that of the Prabhus and resembles the Marathi to be found in old works like the *Dnyaneshwari.* It contains an admixture of Gujarathi words and has been enriched from time to time with words from other languages and dialects. The language of the lower classes of Panchkalshis, particularly those who are engaged in agricultural pursuits outside the limits of the island of Bombay, is closely akin to that of the Kolis and Agris, and the home-dialect of a Panchkalshi woman of this class is hardly distinguishable from the dialect of a Koli fish-wife, who uses *kain* for *where*, *mijun* for *by me*, and *gelatum* for *I had gone.*

Family Life.

The social economy of the upper-class Panchkalshi household does not materially differ from that of the ordinary upper-class Hindu family and is in origin patriarchal. The eldest male theoretically still commands the highest respect and obedience, but in practice the disappearance of the joint family system and the struggle for living have to some extent robbed the *patria potestas* of its influence and significance. The day is ushered in with ceremonial bathing, which is followed by prayers and a visit to the bazaar. A cup of tea is taken in the early morning, is followed by breakfast at 9 a.m., by afternoon-tea which has now become indispensable and finally by the evening meal at 8 p.m. A few orthodox Panchkalshis perform their prayers and worship (*sandhya*) in the

[1] Suit No. 506 of 1890, Raghunath Damodhar *vs.* Janardhan Gopal and others (Indian Law Reports, Bombay Series).

evening. The gods usually worshipped are Rama Krishna, Siva, Parvati, Ganpati, Vithoba and Khandoba.[1] The male members of the caste are invested with six of the *adhikars* and sixteen *samskars*, including the thread-ceremony. All ceremonies of this nature are performed in the requisite Vedokta style, the hereditary and officiating priests being Yajurvedi or Palshikar Brahmans.

The poorer Panchkalshis and so-called Vadvals approximate closely in their daily life and religious practices to other backward Hindu classes. They pay special veneration to the goddesses Ekvira, Mahalakshmi of Kolvan near Dahanu, Vajreshvari of Bhiwndi near Kalyan, and observe as an important holiday the *amavasya* or new moon-day of *Chaitra*. They are addicted to liquor and partake freely of it on the occasion of marriages, but are occasionally so superstitious that they will not touch pipe-water or soda-water. Their dwellings are thatched or tiled with walls made of split bamboos plastered with mud, and are arranged in a manner similar to the ordinary low-class Hindu dwelling, with a verandah, reception-room, central apartment containing a swing-cot, and one or two rooms on either side. One of these is the *devaghar* or gods' room, behind which lies the kitchen. A *tulsi* plant is generally to be found in front of the house. With the exception of a few families at Mahim and Dadar the bulk of the agricultural and horticultural Vadvals have left the precincts of the island or have become absorbed in other occupations, which have gradually weaned them from their original mode of living.

The original dress of the upper-class Panchkalshis resembles closely the Prabhu dress, but has now become almost obsolete, trousers, English boots, coats and waistcoats of approximately English cut and a Brahman turban having taken the place of the old coat with long sleeves, the *dhotar*, the country-shoes and the Prabhu

[1] The chief temples visited by the Bombay Panchkalshis are those of Vishveshvar in Bhuleshwar, Gamdevi in Girgaum, Vithal Rakhmai in Girgaum, Mankeshvar in Mazagon, Vagheshwari in Parel, Shambhu Mahadev in Varli, and Sri Vishvanath at Mahim.

turban. The dress of the Vadvals approximates to that of the original lower classes of the island, and consists of a short waistcloth, a *bara bandi* or waistcoat, folded double and fitted with 12 fastenings under the arms, six on each side, and for head-dress either the Koli cap or a large red turban. The women wear a cloth which may not reach below the knee and is usually tucked up and fastened behind in the manner adopted by Koli women. Save for a *kargoti* or silver belt and a silver necklace, the women wear little jewellery, and whatever else they may don on special occasions is of the same character as is ordinarily worn by Hindu woman. On the occasion of marriages and other ceremonies Vadval women wear yellow *saris* of silk or cotton with embroidered borders.

The Pathare Prabhus.

The Pathare Prabhus are one of the oldest Bombay communities[1] and are alleged in traditional lore to have journeyed hither with Bhimdeo or Raja Bimb who colonized the island of Mahim about the year 1293 A. D. In all probability their immigration into Bombay was spread over a considerably longer period than that given by popular tradition and may reasonably have commenced during the epoch of Silahara dominion in Bombay[2]. The one thing certain is that the Prabhus originally reached Bombay from Gujarat and neighbouring tracts, for their language still contains a considerable admixture of Gujarathi, Kathiawari and even in lesser degree Marwadi words, their manners and customs show traces of a northern origin[3], and the so-called Prabhu turban, now falling rapidly into desuetude, is found in some parts of Kathiawar. Under Raja Bimb, as also during the era of Muhammadan dominion, the Prabhus appear to have held high and responsible office ; but the intolerance and bigotry of the Portuguese coupled with

[1] An old saying referred to the presence of four Ps. in Bombay, *viz.*, the Prabhus, Panchkalshis, Palshe Brahmans and Parsis.

[2] See History chapter.

[3] One of their original customs was that of widow-remarriage. On this subject the Bombay Courier of 10th November 1846 printed a translation of a letter from Balaji Bajirao, the Peshwa, I in which it was stated that the custom of widow-remarriage was of old standing in this community.

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the forcible conversion to Roman Catholicism enjoined by the Inquisition drove the majority of the community out of Bombay into Salsette and other portions of the Maratha dominions. The few who remained were generally employed as rent-receivers and revenue officials. After the cession of the island to the English the Prabhus returned in large numbers and under the name of "Purvoes" or "Parus" took service with the Company as clerks. They prospered greatly during the seventeenth and eighteenth centuries and became the owners not only of house property and landed property in Bombay and its suburbs but also of the *Dharamshalas* or private rest-houses at Walkeshwar and Mahalakshmi. At the present date the Prabhus are somewhat less well-off than they used to be. They have left entirely their former settlements in the Fort [1], and are even relinquishing C. Ward for such places as Dadar, Mahim and Thana. Of Government service also they no longer retain the monopoly, while keen competition, the high rate of living in the city, a comparatively high standard of comfort and expensive social ceremonies have combined with other causes to diminish their wealth.

Houses. The Prabhus usually cling to one-storied houses. The ground-floor comprises the verandah (*ota*) used for the reception of ordinary visitors, an apartment called *osari*, a central room called *vathan* used by the women of the family as a reception-room, two bed-rooms, a gods' room (*deva kholi*), a dining-room, kitchen and a rear verandah. The first storey contains a hall for the reception of men, two bed-rooms, an open terrace (*agashi*) and a loft. All houses have some open space in the rear, and a few also possess a front courtyard. The rear-portion of the compound usually contains a well and a godown. The usual furniture of a Prabhu house consists of brass and copper pots, cots, bedsteads, benches, chairs, tables, cupboards, European and native lamps, a grinding stone (*jaten*), pounding stone and pestle (*pata varavanta*), a wooden pounding instrument (*vakhal*) with two wooden

[1] The one vestige of a Prabhu settlement in the Fort is Raghunath Dadaji Street behind Hornby Road.—See K. N. Kabraji's Reminiscences in *Times of India*, 1901.

pestles (*musals*), trunks, wooden boxes, pictures [1] and looking-glasses. The rich use silver pots, sofas, Persian carpets, china and various European knick knacks. The hubble-bubble (*gud-gudi*) has almost entirely gone out of fashion and in some cases has yielded place to cigars and cigarettes.

Daily life. The Prabhus rise at 7 o'clock in the morning, the females a little before the males. After the toilet and bath the ladies worship the *tulsi* (basil plant), serve tea, and then prepare the morning meal which is served at about 9-30 o'clock. The males pass their morning in reading and attending to household affairs.[2] After a bath at about 9 o'clock, they worship the gods,[3] take their food, and go to office. The females dine after the males at about 11 o'clock. They then take a nap and pass the afternoon in reading novels or other kinds of Marathi literature, in needlework or embroidery, or in cleaning rice and preparing vegetables and other food for the evening meal. Supper is served at about 8 o'clock in the evening. The Prabhus go to bed at about 10.

Food and drink. The Prabhu meal consists of rice, pulse, *ghi* [4], vegetables, wheat bread [5], curry (*kalvan*), fish and mutton. But on Sundays and other holidays they generally have mutton in various preparations and a variety of dishes of fish and vegetables. The Prabhus are fond of good dishes and spend a considerable portion of their income on food. Birds, venison, flesh of boar and of rabbit are considered dainties. Fowls and eggs which were formerly avoided are now freely partaken of; while such European dishes as potato pies, omelettes, and cutlets have also been added to their articles of food. The Prabhus make free use of spices and their dinner is next to the Muhammadans the most highly-seasoned in the city. They take

[1] Raja Ravi Varma's pictures have driven away European pictures from many a Prabhu house.

[2] Generally servants go to markets to buy vegetables and fish.

[3] The Prabhus worship Mahadev, Rama, Krishna, Vithoba, Ganpati, the Sun, Devi, Khandoba, and Hanuman. The daily worship is generally performed by a Brahman who is paid from Re. 1 to Rs. 2 a month.

[4] Oil is used in some preparations of vegetables.

[5] Bajri bread is rarely taken.

tea twice a day, in the morning at about 7-30 and in the evening after they return from office. They also take coffee, cocoa, and milk. On fast days they eat fruits, sweet potatoes and *kenfal*, and drink milk, coffee, or sago boiled in milk, while the weak eat wheat and the sick take rice. Fish or flesh is strictly abjured on fast days.

The Prabhu male dress has now undergone great changes. The *angarakha* or long coat which supplanted the *jama*,[1] has in its turn yielded place to the coat of European cut with or without an open collar. Shirts and waistcoats with collar and cuffs and sometimes with a stiff front also are now seen in the place of the *adawe bandache wasakut* and *ubhe bandache wasakut* which were the *jama* and the *angarakha* in miniature. The Prabhu turban[2] which was once a very large and heavy headdress has been much reduced in size and weight. Boys wear velvet or felt caps and even young men prefer skull caps to turbans which they find rather cumbrous to wear. The *pagadi* made of glazed spotted cloth, which elderly people once wore, has now completely disappeared. The *dhotar* is supplanted by trousers in the case of professional men and persons in high posts. The Prabhu shoe with its tapering end turned upwards is also going out of use, and broad-toe shoes as well as boots and shoes of European pattern are in vogue. The personal appearance of modern Prabhus has been greatly influenced by European custom.

In the case of women, the dress has not much changed. The *polka* with or without fringes is the only article added to their wardrobe. The home dress consists of a *lugade* or *patal*, a bodice (*choli*) and a *polka* over it. When women go out they cover their bodies and heads

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[1] Having held high posts under the Muhammadans for a long time, the Prabhus adopted the *jama* and *pichhodi* from their rulers. Even in the first half of the last century Prabhus were seen going to their offices with *jama* and *pichhodi*. This heavy dress then became for some time the marriage dress of both the bridegroom and his friends and relations. It now lingers as the marriage dress of the bridegroom only.

[2] This kind of turban is worn by some Brahmans at Sihor near Bhavnagar in Kathiawar. The Salats, Bhois and Khatris of Kathiawar and Gujarat also wear this turban.

with shawls ; young women now freely wear shoes or English slippers. The *pardah*-system[1] has become a thing of the past. Ladies attend social gatherings of the community, but sit apart in a group. Such mixed gatherings, however, are not many. A Prabhu lady is polished and neat in appearance ; only the modern woman ties her hair loosely and not tightly as old ladies did some years ago. She is fond of flowers, which she generally uses to decorate her head. She is very particular about her toilet.[2]

Physical characteristics.

The men are generally of middle height, dark, with regular features and an intelligent expression. The women are below the middle height, fair and good-looking, generally with well-cut features. In character the Prabhus are frank and generous, and their manners are free and courteous.

Education.

The Prabhus for their number are a well-educated community. They have among them 8 M.A.'s, 55 B.A.'s, 24 LL.B.'s, 15 L.M. & S.'s, 8 L.R.C.P.'s, and the rest are either undergraduates or have studied English up to the Matriculation standard. Nor is education confined to boys alone. Girls are freely sent to school, and in many cases allowed to continue their studies even after attaining the age of puberty. Where means permit they are given a College education. Thus three ladies have passed the Matriculation Examination, one of whom has passed the Intermediate Examination and is in the B.A. Class. Four young ladies are teachers in girls' schools, and two are training themselves as nurses and midwives.

Occupation.

The general occupation of a Prabhu has been that of a clerk ; but some of the highest and most important posts under Government have been always held by the Pathare Prabhus.[3] Many of them have entered the learned professions.

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[1] Only old ladies now go out in carriages like victorias with a piece of cloth tied to them to conceal the occupants. This is the only remnant of the *pardah* system in this community.

[2] After their toilet ladies of other communities ask one another "Parbhin diste?" Do I look like a Prabhu lady?

[3] The first native Judge of the High Court (acting), 2 Judges of the Small Causes Court, 2 Presidency Magistrates (1 acting), 2 Munsifs or Sub-judges, 2 Oriental Translators (1 acting), 1 Sheriff of Bombay, 2 Deputy Collectors, 1 Assistant Commissioner of

gion. The Prabhus are as a general rule Shaivas and recognize the Shankaracharya as their spiritual head ; but they also worship Rama and Krishna. Formerly they daily said their Sanskrit prayers and themselves performed the details of ordinary worship. But later these duties were often delegated to the Brahman, as people lost faith in them. For the introduction of Western learning brought with it free thinking ; and some of the first products of college education were largely influenced by the teachings of Hume, Mill, and Darwin. A reaction soon set in and people began to study religion stripped of the superstitious excrescences that had grown upon it. Theosophy has greatly helped this rational study of religion, and many a youth is now found reading religious books and attending religious meetings and gatherings.

There are no endogamous divisions among the Pathare Prabhus. A man may not marry his *sagotra* or *sapinda*, *i.e.*, one descended from what the Romans styled the same *gens* or one descended from a common ancestor through seven generations. He may marry, if he so chooses, the daughter of a maternal uncle. One curious custom which obtains among the Prabhus and other Hindu communities is as follows. When a bridegroom returns to his house with the bride, his sister stands in the doorway and bars his passage. He is subsequently allowed to enter on promising to give his daughter in marriage to her son. In a great many cases these promises have become mere formalities.

l pro- The Prabhus are eminently fond of social pleasures. They have their clubs and periodical social gatherings, besides Sunday parties and holiday excursions. The Pathare Prabhu Social Club is a popular place of resort where men gather every evening after the toil of the day, take tea, and discuss the news, some play at cards, and some take part in music. These people have also debating clubs, where they discuss their social questions

Customs, 1 Assistant Secretary to Government, Revenue Department, 1 Assistant Superintendent of Stamps; 1 Lieutenant-Colonel, Indian Medical Service ; 3 Honorary Magistrates. They have also held high posts in Native States: 3 Judges (1 has retired); 3 Divans (1 still in power) ; 1 Captain in the Army, and 1 Sanitary Commissioner.

and devise means of helping the poor and needy of their community. They have thus started a relief fund to help the destitute and every year erect camps during the prevalence of plague for the benefit of the indigent. In the first few years they had a plague hospital of their own, with a medical staff and a volunteer corps from among their own people. They are now thinking of raising an educational fund to help deserving students.

Position of the women.

Amongst the Prabhus the position of the woman has always been very high. At home she is consulted in all domestic affairs, and is now beginning to take an intelligent interest in social and national activities.

Joint family system.

The social institutions of the Prabhus, like those of the Hindus in general, are undergoing a revolution. Chief among these is the joint family system which is fast breaking up, or rather has broken up and given place to a tenancy-in-common. Brothers, no doubt, sometimes live together, but they keep their earnings separate, and pay their proportionate share in the family expenses. They are joint in residence, food, and worship, but not in earnings[1].

The Beni Israel.[2] *History.*

The ancestors of the Beni-Israel community of Bombay are said to have reached the coast of India from a country to the north about sixteen hundred years ago[3]; but owing to lack of direct evidence it is impossible to fix the precise date of their arrival. A tradition current in the community states that the earliest representatives of the race in India were shipwrecked near the village of Navagaon, Kolaba

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[1] For further information about the Pathare Prabhus in general, see Bombay Gazetteer, Vol. XIII, Part I, pp. 89-108, and Vol. XVIII, Part I, pp. 193-256.

[2] The following account of the Beni-Israel has been contributed by Mr. D. J. Samson of the City Improvement Trust and Mr. E. M. Ezekiel. See Bombay Courier of 4th December 1838 for Dr. Wilson's paper on the Beni-Israel, and Indian Antiquary III. 321-323.

[3] Dr. Wilson, Land of the Bible II, 667. Some members of the community fix the date of arrival between 740 B.C. and 500 B.C. on the grounds that the community calls itself Beni-Israel (*i.e.*, children of Israel), detests the title of Yahudis (*i.e.*, children of Judah), and must therefore be descended from the Ten Tribes of Israel, who were carried into captivity in 740 B.C.; and secondly because their ancestors were ignorant of the feast of Purim which is celebrated by other Jews in commemoration of the event which took place in 500 B.C.

District, which lies about 13 miles south of Bombay; and that in course of time their descendants, who adopted the trade of oil-pressing and to some extent also agricultural pursuits, multiplied and spread themselves throughout the coast-hamlets of the Kolaba District, forgetting in the process of years most of their traditional customs, excepting the hereditary observance of the Sabbath,[1] the rite of circumcision, and the memory of the prophet Elijah and of the Day of Atonement. A gravestone excavated at an old Beni-Israel cemetery on the Parel road proves that the community must have been resident in Bombay prior to 1776[2]; while a document of 1800 in the handwriting of one Samuel Nissim Kazi states that they first arrived on the island in 1749. In all probability they were attracted hither by the chance of military service under the English and by the demand for skilled labour, such as carpentry and masonry, which was created by the expansion of the town towards the middle of the eighteenth century. Certain it is that there was hardly an infantry regiment of the Bombay army from 1760 onwards, which did not include a certain number of Beni-Israel, many of whom rose to the rank of officers and were present at the great engagements, such as the storming of Seringapatam, the siege of Multan, the battle of Kirkee, which laid the foundations of British power in India. They also served through the Indian Mutiny, in the 2nd Afghan War, and in the Expe-

[1] The Beni-Israel of Kolaba were always known as Shaniwar Telis or Saturday oilmen, in contradistinction to the oil-pressers of other castes who did not observe the Sabbath as a day of rest and who were called Somawar Telis or Monday oilmen.

Maimonides, writing in the twelfth century to the learned Jews of Lunel, remarked :—But the Jews who are in India do not know the written law. They have nothing of religion except that they rest on the Sabbath and perform circumcision on the eighth day. Benjamin of Tudela, who travelled in the thirteenth century, speaks of the Jews of the Malabar coast as knowing the law of Moses and the prophets and to a small extent the Talmud and Halacha. The inference is that the Jews referred to by Maimonides less than a century earlier are the Beni-Israel.—Jewish Chronicle, London, September 28, 1906.

[2] The Beni-Israel state that their oldest cemetery in Bombay was in Mazagon: but its exact situation cannot be determined. The next cemetery used by them was situated near the Jamsetji Jejeebhoy Hospital, and later they opened cemeteries at Clare road and in Grant road, opposite the Northbrook Gardens. At present the Beni-Israel cemetery is situated in Mount road, Mazagon.

ditions to China and Suakim ; but were eventually forced to relinquish military service by the regulations concerning caste-companies and promotion according to the percentage of caste-fellows in a regiment, which effectively blocked the chances of promotion for members of a small and primarily non-militant community.

Occupation. Upto the commencement of the nineteenth century, the bulk of the community were masons and carpenters and lacked both wealth and education : but on the establishment of Beni-Israel schools in Bombay and the Kolaba District and with the general spread of education amongst them, which the Reverend Dr. J. Wilson so largely fostered, many gradually forsook their hereditary occupations in favour of the medical, legal, engineering and clerical professions. At the present day, although many still work as carpenters and skilled mechanics, an appreciable number earn their livelihood as clerks, draftsmen, surveyors, school-masters, physicians or hospital-assistants, engineers and pleaders. Several are permanently engaged as compositors in the printing-presses of the city; and among the women there is an increasing tendency to devote their lives to hospital-nursing and midwifery.

Houses. The original Ghetto or Jewish quarter was in the vicinity of the present Masjid Bandar station of the Great Indian Peninsula Railway, this being the point at which the first arrivals landed and being also in proximity to the headquarters of the Native regiments, in which so many of them were employed.[1] But as the trade of the port increased the Beni-Israel, who are naturally lacking in the trading-faculty, were gradually ousted from this locality by Khoja and Bania merchants and perforce settled down in the cheaper quarter of Umarkhadi.[2] During the last thirty

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[1] Many Beni-Israel used to live in Samaji and Isaji Hasaji streets [see Colonel Laughton's Road Survey (1870)] which were so named after two distinguished members of the community, who were captured by Tipu Sultan. One of them, Samaji, subsequently escaped from Mysore, and on his return to Bombay built in gratitude for his deliverance the synagogue known as the Gate of Mercy. The synagogue was built in 1796 in the centre of what was then the Jewish quarter of Bombay.

[2] The only property now owned by the Beni-Israel in their original quarter consists of the Gate of Mercy Synagogue and seven godowns behind it; while Israel Moholla and Khadak in

years they have evinced a tendency to move still farther northwards, and many families to-day reside in Jacob's Circle, in Dadar, and even in Sion. Very few Beni-Israel own houses in the city.[1] The poorest families occupy one or two rooms in a chawl at a rental of about Rs. 6 per month; while the middle-class pays from Rs. 25 to Rs. 30 per month for the use of a hall and two or three rooms on the upper-floor of better-class dwellings. Of these rooms one is used as a kitchen, the others as bedrooms, while the main hall serves the purpose both of a sitting-room and of a sleeping apartment for the head of the family. The furniture of the poorer classes differs little from that of the poorer Hindu families, except that the wooden articles, being often home-made, are far more substantial, and that on the walls there always hang pictures of the western wall of Jerusalem (Kothel Maarabi) or of the Candelabra symbolizing the 67th Psalm, and a clock. The well-to-do furnish their homes on western lines, and keep a large supply of crockery and copper cooking-pots, in accordance with the Rabbinical ordinance which forbids food composed of butter and milk to be prepared in the same vessel in which meat is cooked. When a Beni-Israel gives an entertainment and finds the number of his cooking-pots insufficient, he is accustomed to borrow one or more sets from one of the synagogues which always keep a store for this purpose. Among the better-educated the use of English stoves is gradually supplanting the use of the old oblong brick stove manufactured by Beni-Israel women. The usual food of a Beni-Israel family consists of fish, meat, fowls, vegetables and fruit, costing from about Rs. 30 to Rs. 100 per month according to their pecuniary position; and whereas the middle-class family has to content itself with one half-time servant, shared with one or two other families, the rich usually employ

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Mandvi represent the places to which they moved before finally settling in Umarkhadi. The New Synagogue, opened in 1845, is situated in Khadak.

[1] A Beni-Israel house can always be distinguished by the *Mezonza* attached to the door-post, which consists of a wooden or glass tube containing a piece of vellum on which are inscribed passages from the Scriptures (Deuteronomy VI, 4-9 and XI, 13-20) and bearing outside a Hebrew word meaning "Almighty." The *Mezonza* is kissed when entering or leaving the house.

one male and one female servant, of whom the latter, who acts as cook, belongs to the same community as her employers.

Dress.

In the early portion of the nineteenth century the ordinary dress of a Beni-Israel consisted of a turban, a long coat of Hindu pattern, trousers or *dhotar* (waist-cloth), and Indian shoes. The turban was gradually replaced, firstly by the Turkish or Persian cap and secondly by the English hat or cap, which is now generally worn. The long coat also has yielded place to the short European coat and collar, and the native shoes to boots or shoes of English pattern. Similarly the women, who formerly wore the Brahman or Prabhu *sari* and *choli*, now dress in Parsi fashion, with this difference only that they do not don the Parsi shirt (*sadra*) and that they pass the end of the *sari* over their head from left to right instead of from right to left. A certain number of educated Beni-Israel ladies have adopted European dress; but its costliness debars the majority from wearing it. As a rule the Beni-Israel confine their purchase of new clothes to two seasons in the year, namely the celebration of the Passover and the New Year and the Tabernacle holidays.

Language, Names and Titles.

Till about seventy years ago most of the Beni-Israel spoke the debased dialect of the Kolis and Agris of the Kolaba District. But as education extended among them this yielded place to a purer form of Marathi which now constitutes their home-tongue.[1] Dowered with a natural faculty for pronouncing difficult sounds in any language, they are now utilizing English both in their homes and for epistolary correspondence, while a few make use of Gujarathi. With the exception of Judah and Esther, most of the ordinary Hebrew names are current among them, but modified in such a way as to resemble the names of their Hindu and Muhammadan neighbours:[2] and to these they add a surname, based on the Hindu model and ending in *kar* to denote the villages from which their

[1] Owing to their former connection with the Native army many families still speak Hindustani at home and elsewhere.

[2] Thus Abraham becomes Abaji, Moses Moosaji, Isaac Isaji, and Samuel Samaji; while the women add the suffix *bai* to such names as Sarah and Leah. This practice however is gradually dying out.

ancestors hailed.[1] Among the educated there is a decided tendency to introduce English proper names, both male and female : and the diffusion of a knowledge of English has likewise led to the rejection of old honorific titles, such as Murubbi (for elders), Aba-Saheb, Bai-Saheb, and Barkhoordar or Nurechashm (for children). The expressions *mama* (mother), *kaka* (uncle), *dada* (brother) and *aba*[2] (father) are however still used in the home.

[Jo]int-family [sy]stem. In former times the Beni-Israel rigidly observed the joint-family system under which parents, sons, wives, children and grand-children all dwelt together under one roof and subsisted jointly on the earnings of each member of the family ; and a son who severed his connection with the family incurred the displeasure of all the other members and was regarded as a deserter. After their arrival in Bombay, however, the system was modified to last for the space of one generation only, and on the death of the parents it became customary for the sons to divide the joint property among themselves and severally form the nucleus of other joint families. Even this custom is now dying out in consequence partly of the high rentals obtaining in the city, which forbid the occupation of sufficiently commodious premises, and partly of the emancipation of the women, who were regarded as more or less negligible under the old system. The disappearance of the custom of infant marriage and the spread of female education have raised the Beni-Israel wife to a position from which she can direct her husband's affairs and can insist upon his severing his connection with relations who do not add materially to the family exchequer.

[Cu]stoms. The revival of the Hebrew religion among the Beni-Israel was the work of a Cochin Jew, who visited the

[1] Such names are Navagaonkar, Awaskar, Kihimkar. These are also being gradually discarded, their place being taken by the name of an ancestor ; while a few have modified their local surnames into a short English form, as for example Walker from Wakrulkar. Some have adopted professional surnames such as Doctor, Writer, Surveyor, Nayak and Shroff. English derivatives of Biblical surnames are sometimes given to children, such as Ellis for Elisha, John for Jokanaan ; while a few peculiar nick-names are derived from physical attributes, *e.g.*, Yettu, for a boy born with the umbilical chord twisted round his neck, and Bhoora (white), for a child with a fair skin.

[2] Compare the Talmudic *Abba* (my father).

north Konkan about nine hundred years ago; and from that date up to a comparatively recent period the right to officiate at all festivals was vested in certain individuals known as Kazis. But as education advanced, bringing with it a more general knowledge of the scriptures and liturgy, the office of Kazi gradually became extinct. At the present day the Beni-Israel recognize no particular religious leader, and the younger generation are discarding old customs and rites in favour of the more liberal views and practices of the reformed Jews in England and America. Excepting the few whose professions oblige them to work on Saturday, the Beni-Israel of Bombay observe the Sabbath very strictly; while their chief yearly festivals are the Passover (March-April), Pentecost, the Fast of Tammuz, the Rosh Hushan or New Year's Day (September-October), the Day of Atonement (also known as *Dar phalnicha san* or the ceremony of closing the door), and the Feast of Tabernacles. During the first ten days of the month Tishri (September-October) they formally confess and repent of their sins, but differ from all other Jews in observing the fourth of Tishri as a day of rejoicing. They are also the only Jews who celebrate the fair of Elijah (*Eliahu Hannabicha Urus*), which falls in January-February.[1]

Circumcision is rigidly observed and usually takes place on the eighth day after birth, after which the child is named. Female children are named on or after the sixth day after birth. Marriages are usually arranged by a boy's parents, and are celebrated on a Sunday with the same ceremonial as obtains among the Jews of Cochin. The evening preceding the wedding day is known as *Halad Mendi* in reference to the fact that turmeric paste and the red powder of the *mendi* (*Lawsonia Inermis*) were applied to the hands and feet of the bride and bridegroom on that day, but this custom, like the practice of infant-marriages, has practically disappeared.

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[1] The day of the fair is also known as *Vanaspaticha Divas* or Tree and Plant day. At one time the Beni-Israel celebrated this fair at Khandala in Poona District, stating that Elijah ascended to heaven from a hill in the neighbourhood, leaving the hoof-marks of his horse on the rock. The story appears to bear traces of Hindu myth.

Polygamy is almost unknown among the Beni-Israel, cases of divorce are rare, and intermarriage with women of other communities is discouraged. The making of vows is very common, in particular the Nazarene vow, which is usually made by women in need of a son. If a son be subsequently born, his hair is not cut until he reaches the age of five years. The salient features of the Beni-Israel burial ceremonies are the interment of the corpse with its head pointing to the East and a strict prohibition against burying anyone between sunset on Friday and the same hour on Saturday. Mourning, which consists of abstention from work and from the eating of flesh, lasts from three days in the case of a child to seven days for an adult; while regular ceremonies of praying for the dead, both at the grave-side and in the home, which are known as *Jiarath*, take place a fortnight, a month, three months, six months, and eleven months from the date of death.

As a class, the Beni-Israel are sober, cleanly and loyal, and even in the hurry of modern urban life, which acts unfavourably upon the maintenance of old customs, they never forget to visit the synagogue on the Day of Atonement, the most solemn festival in the Jewish Calendar, and offer prayers for the welfare of the Royal Family of England and the Governor of Bombay[1].

he Konka- Muham- adans. *istory.*

The Konkani Muhammadans of Bombay are a mixed race of Sunni Musalmans belonging to the Shafai sect, the predominating element in their ancestry being Arab. According to tradition their ancestors, who were classed as Nawaits or Naitias, fled to India in A.D. 699 to escape the persecution of Hajjaj-ibn-Yusuf, Governor of the Arabian Irak, and settled along the coast of Western India from Goa to Cambay.[2] On arrival they intermarried with the Hindus

[1] Sir Raymond West passed a high eulogy upon the Beni-Israel in 1887, on the occasion of a distribution of prizes to the Israelite School. For further information about the community see Bombay Gazetteer, Vol. XVIII, I; Dr. John Wilson's Land of the Bible, II; the Revd. J. H. Lord's paper on the Bene-Israel; and Mr. J. J. Modi's paper on the Kiss of Peace in Journal, Anthropological Society Vol. VIII; papers by Messrs. S. R. Samuels and Hyem Samuels.

[2] See Gujarat Musalmans by Khan Bahadur Fazlullah Latfallah, Pages 14, 15, footnote. The nickname of Kufi, applied to the

of the coast, whom they converted to their faith, adopting simultaneously many of their habits and customs; and later, between the ninth and the sixteenth centuries, they largely intermingled with the Arab and Persian merchants who settled in the coast towns of the Konkan and with new bands of Arab refugees who escaped from the fury of the Karmatians (A.D. 923-926) and from the desolation caused by Halaku the Tartar (A.D. 1258).[1] The precise date of their arrival in the island of Bombay is uncertain, though they were certainly in occupation of Mahim in the fourteenth century; but circumstantial evidence goes to prove that their occupation of the southern and eastern portions dates from the first quarter of the seventeenth century.[2] They came hither from Ratnagiri, Bankot, Alibag, Panwel, Thana, Kalyan, Bassein, Ghodbandar and other places on the western coast, in which for years they had followed the professions of trading and sea-faring,[3] and having purchased lands from the Portuguese set to work to raise extensive cocoanut plantations in Girgaum, Dadar and Mahim.[4] On the advent of the British many of them forsook trade and

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present day to the Bombay Konkani Musalmans, is indicative of their origin in the Arabian Irak.

[1] Their intermarriage with the Hindus of the coast has resulted in the division of the community into three classes who do not as a rule intermarry, namely Konkani Jamatis, representing those of direct Arab descent, Mandlekars or those descended from Konkani Musalman fathers and Hindu mothers, and Daldis or castaways who are probably Koli converts to Islam.

[2] A history of the Jama Masjid compiled in 1836 states that the Konkani Musalmans of Bombay had occupied the town of Bombay for about 200 years before the history was published.

[3] Garcia d'Orta (Colloquios dos Simples e Drogas, 212, 213) mention Naitas of Bassein who had married women of the country and were very rich and enterprising traders.

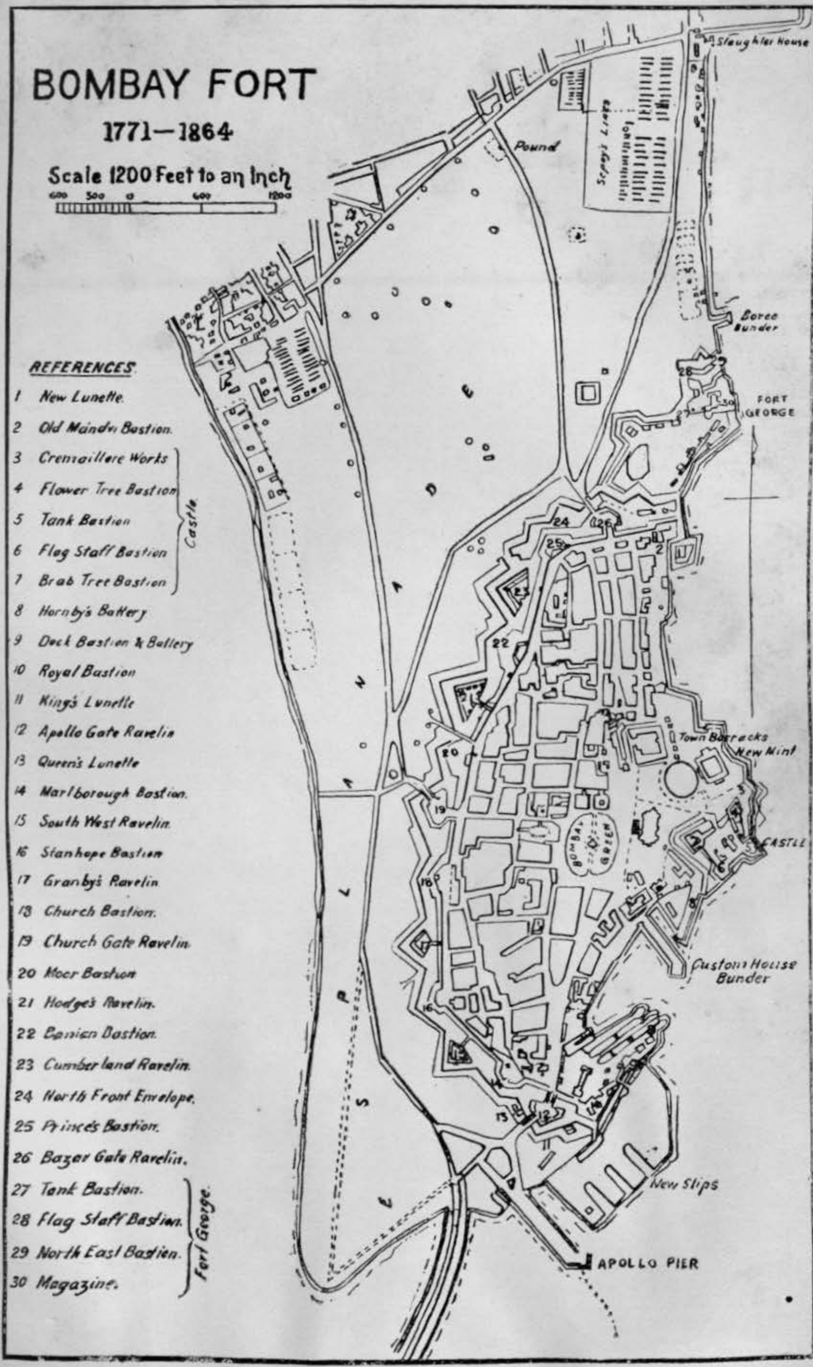
[4] It is noteworthy that the Konkani Musalmans, residing in Mazagon, Narelwadi and Wadi Bandar, hail almost wholly from Rajapuri and neighbouring villages and have not yet become fully assimilated to the early Konkani Musalmans of the Fort and Esplanade. They probably arrived in Bombay island at a comparatively recent date. They distinctly differ from the older Konkanis in three ways, namely, (*a*) they still wear the Hindu *rumal*, coat and *dhotar*, (*b*) they use many Deccan Marathi words in their speech, (*c*) they are distinguished by a white skin, bright eyes and curiously dark lips. The Konkani families of Ghattay, Shaik Bhikun, Paloba, Tungekar and Kur own large *wadis* or gardens in these localities.

agriculture to become assistant surgeons, *subedars* and orderlies in the army, lascars in the Bombay navy, and translators, interpreters and clerks in the law-courts. Others however devoted themselves entirely to trade with Madras and China, the most noteworthy merchants belonging to the Kur, the Roghay, the Tungekar, the Ghattay and the Panwelkar families, some of whom earned the additional title of *Nakhoda* or ship-master from the considerable number of vessels which they employed in the pearl and opium trade. By the middle of the nineteenth century however they had largely abandoned trade owing to the increasing competition of other communities, and had commenced to invest their capital in land and houses; while simultaneously, in consequence of a few cases of conversion to Christianity and of the fact that the abandonment of commerce rendered a knowledge of English less necessary, they discarded any general attempt to educate themselves on western lines. These circumstances rendered them but ill-fitted to hold their own in the commercial and social advancement of Bombay; and by degrees they were forced to sell even the landed properties which constituted their chief source of income. With the exception of a few notable trading families, who still own considerable estates, the Konkani Muhammadans of to-day earn their livelihood as clerks in Government, Municipal and private offices, as mechanics and labourers in railway-workshops, iron-foundries and mills, and as lascars, porters and messengers.[1] An appreciable number have emigrated and continue to emigrate to Rangoon, Mauritius, Zanzibar, Natal, the Transval and Cape Colony.

ess and od.

The dress of the Konkani Muhammadans has undergone considerable changes during the last fifty years. Longcloth, as material for garments, has superseded the former silk and cotton fabrics; while the *shaya* (a long coat worn with the upper buttons unfastened) and the *jaba* (an overcoat without fastenings worn over the *shaya*), which were formerly donned only by Konkanis

[1] The sailor-element is considerable, and many of the lascars, stokers and firemen on American and English liners are Konkani Muhammadans.


BOMBAY FORT
1771—1864
Scale 1200 Feet to an Inch
600 300 0 600 1200
REFERENCES
1 New Lunette.
2 Old Mandvi Bastion.
3 Cremaillere Works
4 Flower Tree Bastion
5 Tank Bastion
6 Flag Staff Bastion
7 Brab Tree Bastion
Castle
8 Hornby's Battery
9 Dock Bastion & Battery
10 Royal Bastion
11 King's Lunette
12 Apollo Gate Ravelin
13 Queen's Lunette
14 Marlborough Bastion.
15 South West Ravelin
16 Stanhope Bastion
17 Granby's Ravelin
18 Church Bastion.
19 Church Gate Ravelin
20 Moor Bastion
21 Hodges Ravelin.
22 Banian Bastion.
23 Cumberland Ravelin.
24 North Front Envelope.
25 Prince's Bastion.
26 Bazar Gate Ravelin.
27 Tank Bastion.
28 Flag Staff Bastion.
29 North East Bastion.
30 Magazine.
Fort George.
Slaughter House
Pound
Sepoy's Lines
Boree Bunder
FORT GEORGE
Town Barracks
New Mint
BOMBAY GREEN
CASTLE
Custom House Bunder
New Slips
APOLLO PIER
ESPLANADE

returned from the Mecca pilgrimage, have ousted the ancient Hindu *angarakha* and *jama*, which the bulk of the community formerly affected. Similarly the skull-cap of embroidered silk or cotton has yielded place for house-wear to the white cotton or velvet cap, as also have the ancient *mullagiri* and *sipahigiri pagadis* to the Benares gold turban as worn by the Khoja community.[1] Broad-toed shoes of red leather or shoes of English pattern are now worn instead of the old red shoes tapering to a point in front or the cream-coloured foot-gear worn during the monsoon months.[2] Konkani Muhammadan ladies wear the Hindu bodice (*choli*) and silk and cotton *sari*, and envelop themselves in a long white sheet whenever they go outside the house. The Arab *burkha* is also worn by a great many; and those who have performed the pilgrimage to Mecca cover the head with a scarf about two yards long, known variously as *izar*, *pairan*, *chauli*, and *phadki*. This particular head-dress is also worn by young girls. Their foot-gear is of red leather and of the pattern affected by Bania ladies of Gujarat, while brides wear similar shoes of yellow leather or embroidery. Their ornaments and bangles resemble those worn by Hindu women, though a few have commenced to discard the old fashioned ornaments of solid gold in favour of jewelled trinkets of more western type; while among the men, the influence of western customs appears in the rings, watches and silver-headed sticks carried by the younger generation. Konkani Muhammadans of the old school usually carry a rosary of 90 or 110 beads, carved from camelbone, coral, amber or cornelian.

Hailing as they do from the coast-villages of the Konkan, the Konkani Musalmans are very partial to fish, rice and cocoa-nuts. The kernel or milk of the cocoa-nut indeed forms a considerable ingredient in all dishes, particularly in that styled *ghaunlas*, which a father presents

[1] The *mullagiri pagadi*, made of glazed cotton cloth, was worn by the leaders of the community. A specimen of it is afforded by the statue of Sir Jamsetji Jeejeebhoy at the junction of Bellasis, Duncan and Ripon roads. The *sipahigiri pagadi* was worn by soldiers, peons and the middle-classes and was probably in the first instance a military turban.

[2] In old days a yellow leather shoe, running into a sharp point at the toe, was an indispensable feature of a bridegroom's apparel.

to his daughter in the seventh month of her pregnancy.[1] Their ordinary bread (*sandan*) is composed of rice-flour and cocoa-nut milk cooked in *ghi* with plantains and pumpkins; but on the *Id* and other ceremonial occasions they eat wheaten bread. Mutton, in the form of stews and *palaos*, is regularly eaten at the big meal of the day, taken at 10 a.m.; but beef they rarely touch; while being Shafais they are not debarred from eating, albeit they now regard with disgust, such animals as the iguana, which are strictly forbidden as food to the Hanafis.[2] Tea and coffee, which have supplanted rice-water and gruel, milk and water, are their usual beverages. Many Konkani Musalmans still spend large sums upon votive or death-ceremony dinners.

Houses.

Until a comparatively recent date the ordinary Konkani Muhammadan house possessed only one upper storey, the front portion of which, known as *ravish*, projected over the street. The ground floor included a verandah for the reception of guests, sleeping-apartments, a passage in which swings (*hindlas*) were erected, and kitchen-offices looking out upon a back-yard (*wada*). Each *wada* possessed doors communicating with the *wadas* of other houses, so that ladies could pass from house to house or down the whole length of the street without violating the *pardah*. The upper storey contained a *divankhana* (reception-room) and sitting-rooms. At present the size of the house varies according to the position and means of the family, which often cannot afford to rent more than a small flat. European furniture of all kinds is seen in the houses of the rich and to some extent in those of the poorer families, the only apartments usually furnished wholly in the Oriental style being those of the women. Many Konkani Muhammadans possess good collections of old china. Their domestic servants vary in number

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1 This dish is composed of vermicelli, cocoa-nut milk, almonds, pistachios, raisins and sugar. They have another special dish of rice flour, over which they repeat the Fatiha (1st chapter of the Koran) on the anniversary of the Prophet's death.

2 The custom among their Arab ancestors of eating the iguana (ghodepad) gave rise to the following couplet in Firdausi's Shah Nameh:—"Has the eating of (salt) fish and iguanas made the Arabs so presumptuous (as to lay claim to empires)?"

from one to six and usually sleep in the passages or kitchen-offices.

Physical characteristics, Names and Language.

The Arab ancestry of the upper-class Konkani Muhammadans is disclosed by the red-brown eyes, small ears, arched and well-marked eyebrows, dark brown hair, and short thin lips which distinguish most of them. With these characteristics are sometimes combined the fair almost ruddy complexions and the light-coloured beards of their semi-Arab and semi-Persian Iraki forefathers. The middle and lower classes on the other hand are of such mixed descent that their facial types are multifarious and often closely approximate to the Konkan Hindu type. The older members of the community usually shave the head and grow their beards according to the *Sunna* fashion, that is to say to the length of seven fingers' breadth, the moustaches being clipped short; while the younger generation has adopted the European fashion of dressing the hair, parting it sometimes in the middle, sometimes at the side. Konkani Muhammadan ladies never cut their hair and regard as an insult any suggestion of this nature. [1]

Konkani Muhammadan surnames are of various kinds,—hereditary, professional, personal and local. Names, for example, like Siddiki, Abbasi, Al-Askar, Fakih, Kazi, Khatib, Kuraishi, Rais, Sawael, Makki, Basri, Kufi, Bagdadi and Barbaraya afford ample proof of an Arab ancestry; while Atash Khan, Arai Mahri, Nauranji, and Shahbazkar denote a considerable Persian element in their origin. Later accretions from Afghan sources have been responsible for the surnames of Khan, Pathan and Khokar; professional callings have introduced surnames like Adhikari, Mulla, Sarkare, and Patel; while the chief personal surnames are Bharbar, Bhaiji, Bhenskar, Bittu, Hande, Launde, Khatkhate, Undre, and Wagmare. The commonest local surnames, which are formed on the

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[1] The statement that a woman's hair is shaved or cut is tantamount to a curse against the life of her husband or to describing her as a slave-girl, the word *choti-kat* (tress-shorn) being synonymous with slave-girl. Konkani Muhammadan women usually have very fine heads of hair, which they attribute to the use of cocoanut milk and oil as a hair-douche.

Hindu model with the affix *kar*, are Jalgaonkar, Janjirakar, Panwelkar, Punekar, Thanekar and Urankar.[1]

The home-language of the Konkani Muhammadans is a peculiar dialect of Marathi, freely interspersed with Arabic, Persian and Urdu words and idioms, and is quite distinct from the Marathi spoken by Konkan Hindus.[2] It is said to have been formed some time after the coalition of Hindu converts with the foreign element in the community and possibly during the epoch of the Deccan Sultanates. A love of poetry inherited from their Arab ancestors has inspired several Konkani Muhammadans to compose poetical works in the dialect, while others have compiled Persian-English dictionaries and grammars [3].

cial and ligious stoms

Among amusements in favour with the Konkani Musalmans may be mentioned the game of *Lakrapat*, a kind of bowls played with pieces of wood, and *gai chula* played by women with beads and a board bearing two sets of holes. Chess is rarely played, but card-playing has of late years been adopted. The chief household ceremonies are those of marriage, death, birth, circumcision, vaccination, *maktaba* or the commencement of a child's schooling, which takes place at the age of four years and four months, betrothal, and ceremonies performed during

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1 These local surnames appear to have been in use by 1537, when the Portuguese seized the grabs of certain Muhammadan merchants, Ali Ibrahim, Ahmad, and Kanji Ali Murkar.—Rowlandson's Talifat-al-Miyabidu, 141.

2 The following are a few words peculiar to Konkani as distinct from Marathi :—

Marathi.	Konkani.	English.
Kothe.	*Kavar.*	*Where.*
Ikade.	*Avar.*	*Hither.*
Kenhwa.	*Kwan.*	*When.*
Bhakari.	*Roti.*	*Bread.*
Pita, Baba	*Bawa.*	*Father.*
Mata. Ayi	*Buwa.*	*Mother.*
Bahin.	*Bucoa.*	*Sister.*
Tandul	*Chauwal.*	*Rice.*

3 In the matter of education one of the most honoured names in the community is that of Mahomed Ibrahim Makbah, who was employed as Munshi to the cadet establishment at Versova in 1803 and became in succession Munshi to the Sadr Adalat, First Interpreter to the Supreme Court, a member of the managing committee of the Native Education Society (1822), a member of the Elphinstone College Council, a member of the Board of Education (1852), and one of the Magistrates of the Court of Petty Sessions.

the seventh or ninth month of pregnancy. Konkani Muhammadan girls do not marry outside their own community; and betrothals are often arranged by professional matchmakers who receive from Rs. 2 to Rs. 10 in cash or clothes after the marriage has been celebrated.

The Konkani Muhammadans acknowledge no religious head, and the Kazi, although possessing some social influence, is officially little more than the registrar of marriages and divorces and the keeper of marriage and divorce records. Up to the date of the death of Kazi Muhammad Yusuf Murghay[1] in 1866 the Bombay Government acknowledged the Kazi as head of the community and appointed him by *Sanad.* He was granted slight criminal powers, which were exercised in consultation with four assessors also appointed by Government.[2] But since that date Government have no longer recognized the Kazi officially, and the community has been split up into two factions, each of which appoints its own Kazi.[3] The solemnization of marriages constitutes the Kazi's most important duty. On behalf of the contracting parties

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[1] Muhammad Yusuf Murghay was a man of great literary energy and culture. He made fine collections of manuscripts, coins and precious stones, composed poems in Arabic, Persian and Urdu, and wrote a theological work for the use of the young. Among his most notable predecessors were Ala-ud-din, the first Kazi of Bombay, whose handwriting may be seen in a volume preserved in the Jama Masjid library, and Muhammad Ali bin Muhammad Hussain Mahimkar, who was appointed Kazi by Mr. Jonathan Duncan in 1798. The latter was a student of poetry and calligraphy, and a beautiful manuscript in his hand is still to be seen in the Jama Masjid library.

[2] Up to the commencement of the nineteenth century the Kazi was assisted by persons styled Choglas and Ayans in the internal management of the community. The last Chogla held office about 1833, and the only memorial of their existence at the present day is the surname Choglay borne by several families. The Ayans disappeared also about the same date. The name still survives as the equivalent of director in the management of the Sattar mosque in Mandvi. It appears from a manuscript register of Kazi Nur-ud-din (1775) that the Choglas helped the Kazi at that time to decide all manner of questions, besides matrimonial and religious, and to give opinions on doubtful points referred officially to him by the officers of the Sadr Adalat.

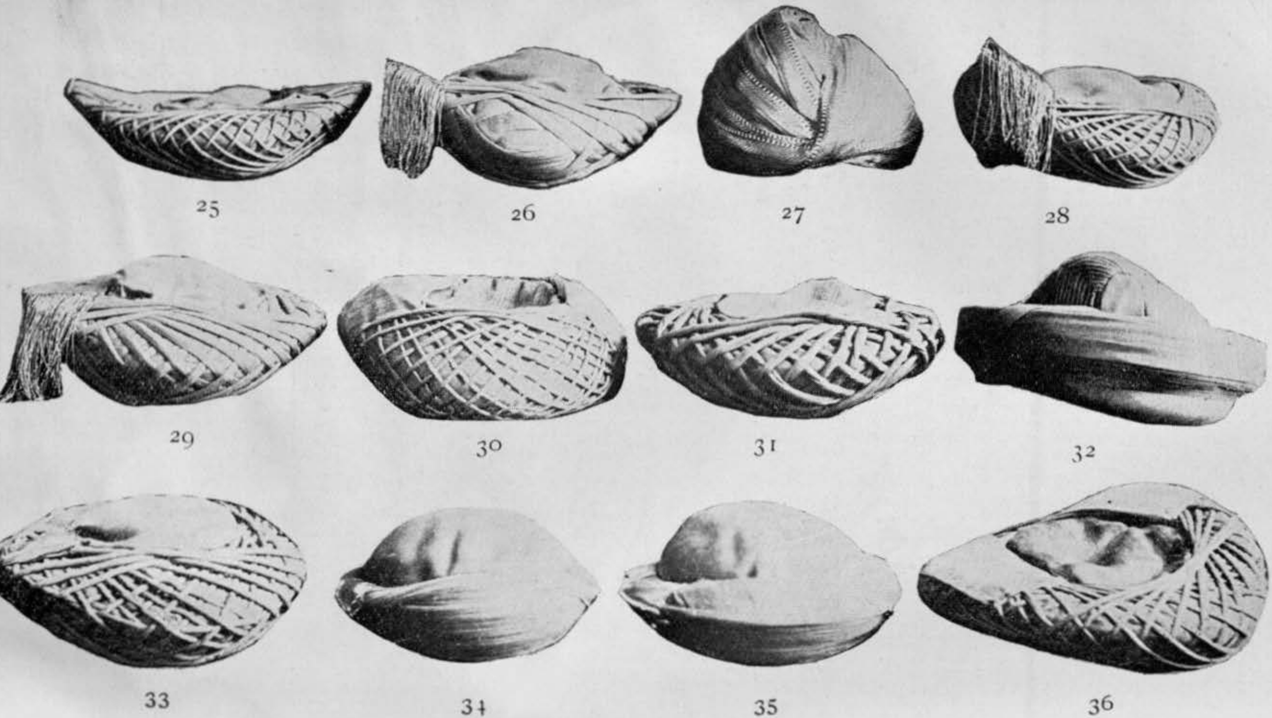
[3] The origin of the split in the community was the solemnization by Kazi Muhammad Yusuf Murghay of a marriage of a wealthy bride under circumstances which offended a large number of people. An enquiry subsequently held under Government orders by the Senior Magistrate of Police showed that the Kazi's conduct was completely justified.

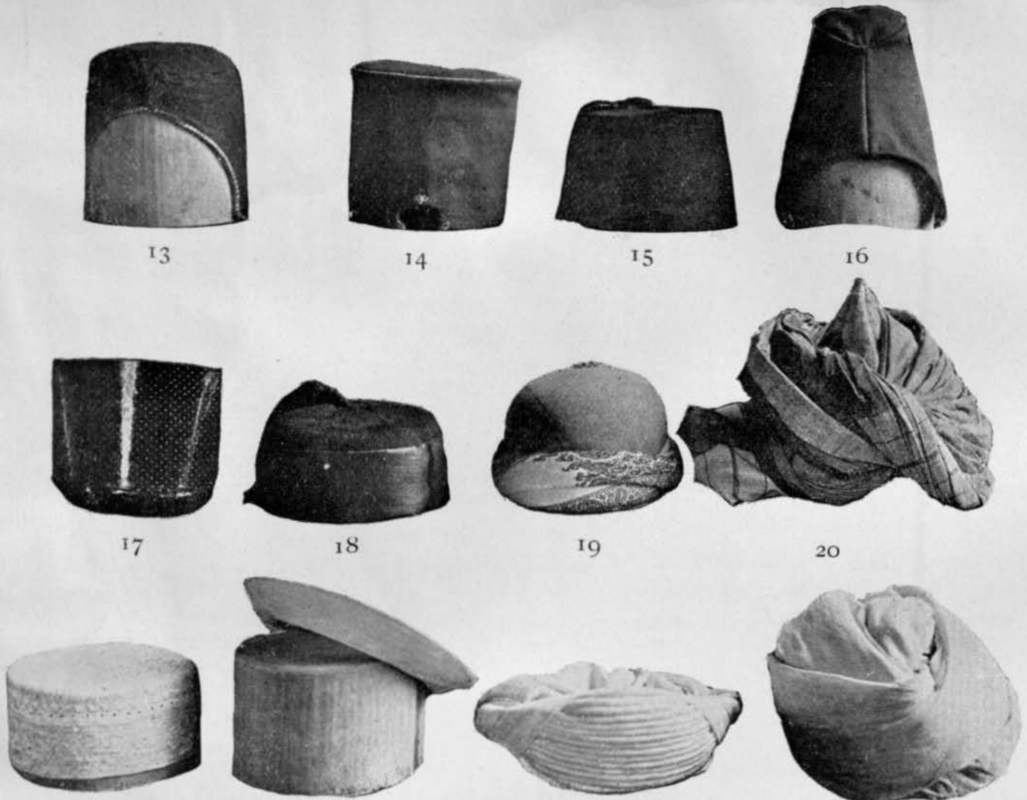
certain persons attend his office (*mahkama*) and give all particulars regarding the ages and status of the bride and bridegroom, which are straightway recorded by the Kazi or his deputy; and on the marriage-night the Kazi, preceded by a lamp-bearer, attends the *mulud* ceremony which precedes the bridal procession. He is there presented with a shawl, and then returns to record all particulars of the marriage, including the amount of the dowry and the names of witnesses[1]. Even at the date when they were formally appointed by the Bombay Government the Kazis received no remuneration and were therefore permitted to levy fees, which since 1776 have been calculated according to the following scale:—first marriage, Rs. 2-8; subsequent marriages, Rs. 5-0; divorce, Rs. 5-0; summons in matrimonial cases, Rs. 1-4; making extracts from records, Rs. 2-8.

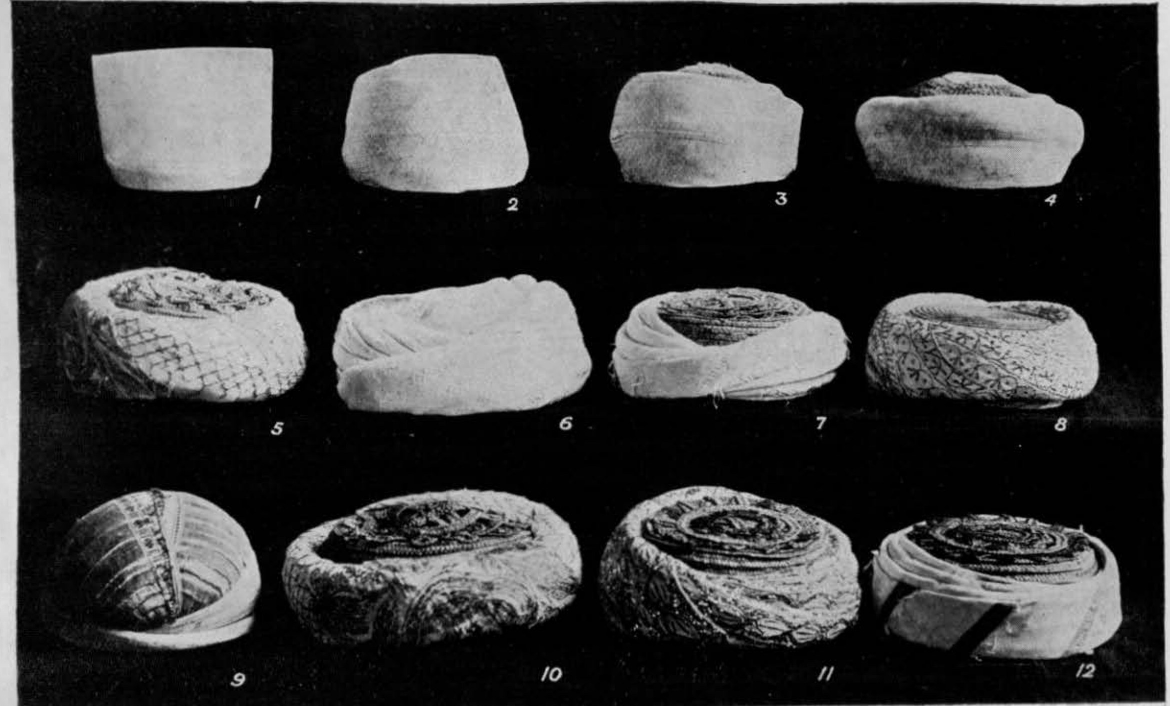
Although the Konkani Muhammadans have earned a reputation for obstinacy and love of litigation, they are universally regarded as devout and charitable[1]. Many members of the upper class are men of culture and sterling honour, while the lower classes—the mechanics, lascars, messengers and clerks—are sober, industrious and extremely enterprising.

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[1] There is a saying, now become almost proverbial, to the following effect:—"Have but the smallest transaction with a Konkani, and you will involve yourself in litigation to the third generation."


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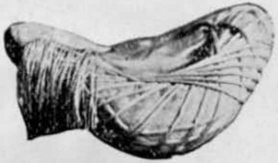
APPENDIX I.

List of turbans, caps and head-dress of different classes of people of Bombay.

1. Turban worn by Parsi priests.
2. Turban worn by Bohras from Kathiawar.
3. Turban worn by Bohras from Ahmedabad.
4. Turban worn by Bohras from Surat.
5. Head-dress of Arabs from the coast of the Persian Gul (Dealers in pearls).
6. Turban worn by Irani Parsis.
7. Turban worn by Halai Memons.
8. Turban worn by Khojas from Cutch.
9. Turban worn by Bohras from Ujjain (Malwa).
10. Turban worn by Memons from Cutch.
11. Turban worn by Sulemani Bohras.
12. Turban worn by Muhammadans from Persia.
13. Topi (cap) worn by Sanyasis of the Ramanandi sect.
14. Topi (cap) worn by Fishermen in Bombay.
15. Fez (cap) worn by Muhammadans.
16. Topi (cap) worn by Christian Fishermen from Bassein.
17. Behedi turban worn by the Parsis in Bombay.
18. Head-dress worn by the Jews from Bagdad.
19. Head-dress ("Phaeta") worn by Parsis in Bombay.
20. Head-dress worn by the Afghans.
21. Topi (cap) worn by Muhammadans from Delhi and other parts of Northern India.
22. Turban worn by Hindu jewellers from Delhi.
23. Turban worn by Marathas from Baroda.
24. Head-dress ("Phaeta") worn by Brahmins and other Hindus from the Ratnagiri District.
25. Turban (Angreshahi) worn by Marathas from the Kolaba District.
26. Turban worn by Bhandaris from the Ratnagiri District.
27. Head-dress ("Phaeta") worn by attendants on dancing-girls in Bombay.
28. Turbans worn by Marathas from Akalkot.
29. Turban (Waideshi) worn by Marathas from Wai (Satara).
30. Turban worn by Marathas from Kolhapur.
31. Turban worn by Marathas from Satara.
32. Turban worn by Brahmans from Baroda.
33. Turban worn by Marathas from Sawantwadi.
34. Turban (Mathurashahi) worn by Gujarathi Maharajas in Bombay.
35. Turban (Pardeshi) worn by Bhayas (Hindus from North-West Provinces and Oudh) in Bombay.
36. Turban worn by Marathas from Jamkhindi.

Turban worn by Marathas from Indore.

38. Turban (Bhavnagari) worn by Hindus from Bhavnagar.
39. Turban worn by Lad Vanias.
40. Turban worn by Hindus from Kathiawar.
41. Turban worn by Joshis (astrologers) from Gujarat.
42. Turban worn by Bhattias from Cutch.
43. Turban (Ghogari) worn by Ghogaris from Gogha.
44. Turban worn by Gujrathi coachmen in Bombay.
45. Turban worn by Patelias from Panch Mahals.
46. Turban worn by Patidars from Ahmedabad.
47. Turban worn by Multanis in Bombay.
48. Turban worn by Brahmans from Indore.
49. Turban (Seherni) worn by Vanias from Ahmedabad.
50. Turban worn by Chappadias from Porbander, Mangrol, Veraval.
51. Turban worn by Vanias from Surat.
52. Turban (Gamdi) worn by Vanias from Ahmedabad.
53. Turban worn by Marwadis from Delhi.
54. Turban worn by Bene-Israels in Bombay.
55. Turban worn by Kayasths from Gujarat.
56. Turban worn by Ghorwadia (from Jodhpur) Marwadis, used on festive occasions.
57. Turban worn by Madaria (from and near Mount Abu) Marwadis.
58. Turban worn by Ghorwadia Marwadis (in daily use.)
59. Turban worn by Sindhis from Hyderabad.
60. Turban worn by Sindhis from Shikarpur.
61. Turban worn by Maratha office peons.
62. Turban worn by Maratha Malis.
63. Turban worn by Muhammadan butchers.
64. Turban worn by Bombay Prabhus.
65. Head-dress of Arabs from Basra.
66. Turban worn by Deccani Muhammadans.
67. Turban worn by Maratha coachmen.
68. Head-dress of an Arab from Mecca.
69. Turban worn by Konkani Muhammadan.
70. Turban worn by Kamathis in Bombay.
71. Turban worn by Brahmans and other high-caste Hindus.
72. Turban worn by Maratha fruit-sellers.


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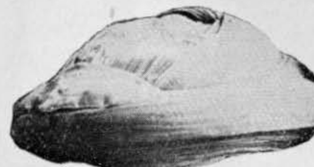

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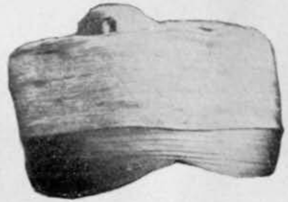

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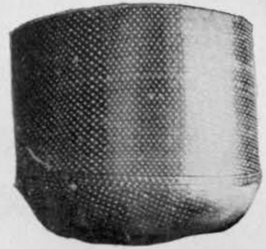

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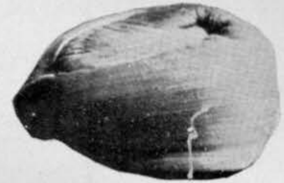
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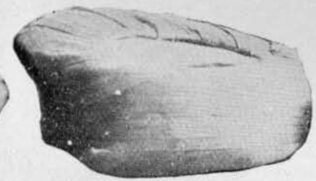
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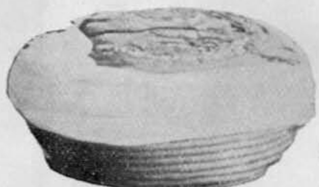
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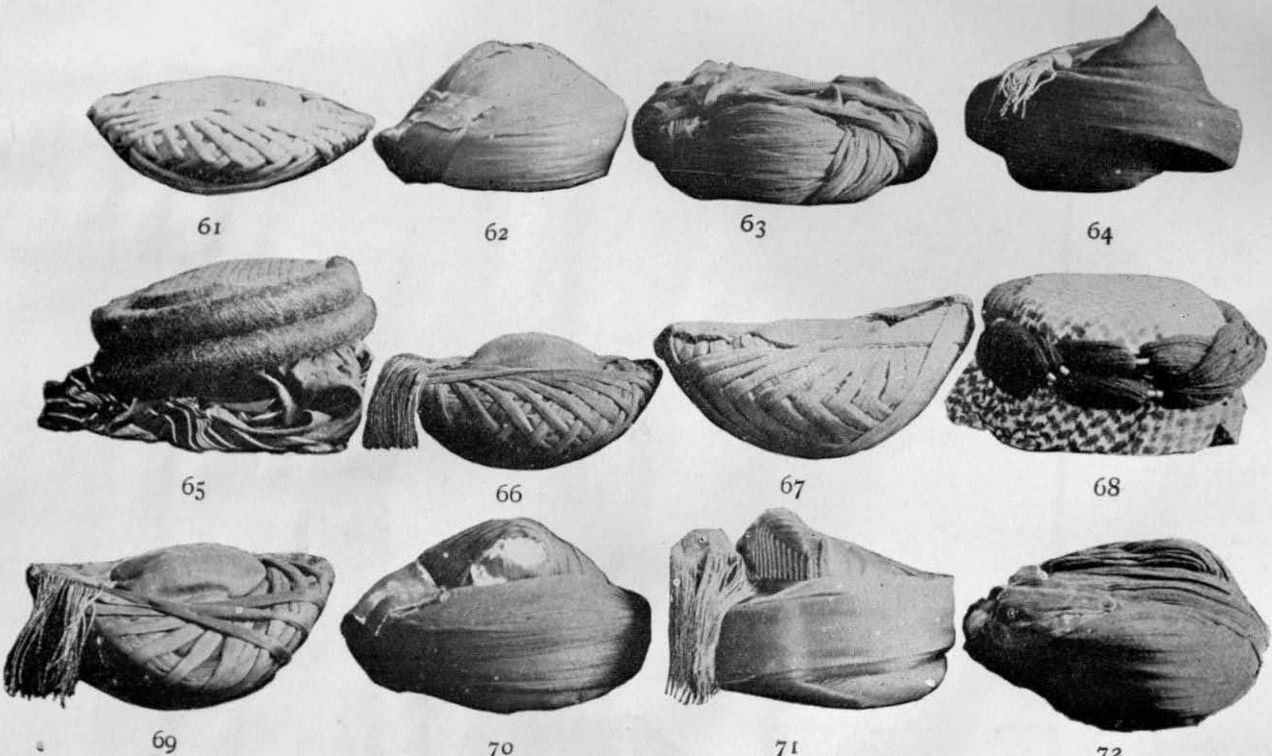
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APPENDIX II.

List of Fairs held in Bombay.

No.	Date.	Situation.	Name of Fair.	Period.	Approximate Attendance.
1	13th of Rajab	Upper Colaba road	Sheikh Hasan Gaja-ali Fair ...	1 day	3,000
2	16th of Rajab	Do.	Giabanshah Walli Fair ...	1 ,,	1,000
3	13th of Shaban ...	Lower Colaba road	Sheikh Ismailji Gaja-ali Fair	1 ,,	7,000
4	Jama Dilawal (no fixed date).	Bohra Bazaar street	Chand Bi's *Urus*	1 ,,	4,000
5	Awan roj Awan mah (April).	Esplanade	(Parsi Fair) Awan Ardvicura Jashan.	1 ,,	5,000
6	Adar rojAdr mah(May)	Do.	(Parsi Fair) Adar Jahan ...	1 ,,	3,000
7	11th of Shravan Vadya.	Fort street and Hornby road	Thakurdwar Temple / Govalia Garris } Fair...	1 ,,	4,000
8	5th of Shrawan Sudh[1]	Nagdevi street	Nagdevi Fair	½ a ,,	1,000
9	11th of Shavval ...	Tandel street	Khoja Darga Fair	5 days	15,000
10	19th of Shaban ...	Memonwada road	Gauli Moholla Fair	8 ,,	3,000
11	18th of Shavval ...	Dongri street	Ashaksha Darga Fair... ...	1 day	2,500
12	2nd of Shaban ...	Chinch Bandar road	Khoja Jamatkhana Fair ...	2 days	8,000
13	2nd of Shaban ...	Samuel street	Khoja Mosque Fair	2 ,,	6,000
14	16th of Rajab	Tandel street	Sidi Darga Fair...	7 ,,	3,000
15	21st Rabia II	Do.	Chatri Sarang Fair	1 day	2,000
16	5th of Shravan Sudh...	Memonwada road	Nagpanchmi Fair	1 ,,	1,500
17	15th of Powsh Sudh[1]	Shamshet street	Bapdeva	3 days	2,000
18	1st and 2nd of Vaishakh Sudh. 15th of Vaishakh Sudh.	Mumbadevi Tank road ...	Mahakali	3 ,,	6,000
19	30th of Magh Vadya.	Champa galli	Champadevi	1 day	2,000
20	15th of Chaitra Sudh.	Hanuman lane	Hanuman...	1 ,,	1,500
21	10th of Ashwin Sudh.	Sheikh Memon street	Dasara	1 ,,	25,000

[1] From 6 A.M. to 12 noon.

APPENDIX II—(continued.)

No.	Date.	Situation.	Name of Fair.	Period.	Approximate Attendance.
22	30th of Margashirsha Vadya.	Kalbadevi road	Kalikadevi	1 day	6,000
23	14th of Shaban ...	Old Sonapur lane	Sayadali	1 ,,	45,000
24	Jilkad (no fixed date).	Karelwadi	Hasanshah Kadri	3 days	6,000
25	Jilkad or Zilhaj (no fixed date).	Do.	Sayad Gulabshah	1 day	2,000
26	30th of Kartik Vadya.	Naviwadi	Maheshwari	10 days	30,000
27	10th of Shavval ...	Bapu Khote street	Sayad Ismail Shah	1 day	20,000
28	11th of Chaitra Sudh.	2nd Bhoiwada	Rama	2 days	2,000
29	9th of Chaitra Sudh.	Kika street	Do.	1 day	3,000
30	4th of Bhadrapad Sudh.	Do.	Ganpati Fair	1 ,,	10,000
31	15th of Ashwin Sudh.	Bhuleshwar road	Ranchhod	1 ,,	4,000
32	11th of Kartik Vadya.	Do.	Mahadev	1 ,,	3,000
33	30th of Magh Vadya.	Khoja street	Do.	1 ,,	1,500
34	16th of Rajab	Erskine road	Madar Chikshah	1 ,,	2,000
35	10th of Jilkad	Duncan road	Durga Fair	1 ,,	1,000
36	8th of Shavval ...	Mutton road	Khanda Masjid Fair	1 ,,	1,000
37	11th of Ashadh Sudh...	Walkeshwar and Chaupati ...	Ashadhi Ekadashi Fair ...	1 ,,	3,000
38	11th of Kartik Sudh ...	Do. ...	Kartiki Ekadashi Fair ...	4 days	5,000
39	15th of Kartik Sudh...	Do. ...	Tripuri Paurnima Fair ...	5 ,,	60,000
40	14th of Magh Vadya.	Do. ...	Mahashivratri Fair	1 day	120,000
41	15th of Chaitra Sudh.	Mahalakshmi Village	Chaitra Paurnima fair ...	4 days	40,000
42	1st of Ashwin Sudh...	Do.	Shri Bhavani Temple	8 ,,	
43	Do. ...	Do.	Dhakleshwar Temple Fair ...	2 ,,	5,000
44	15th of Margashirsha Sudh.	Tardeo road	Shri Bhawanishankar Temple Fair.	4 ,,	15,000
45	10th of Rabiulakher ...	Mangelwadi	Pirshah Nawaz Fair	2 ,,	1,000
46	12th of Ashwin Sudh...	Gowalia Tank road	Shri Lakshmi Narayan Temple	8 ,,	2,000
47	15th of Magh Sudh ...	Ghorapdeo road	Siddeshwar Temple	3 ,,	2,000
48	8th of Shravan Vadya	Gunpowder road	Mankeshwar Temple	3 ,,	5,000

49	15th of Magh Sudh ...	Parel road, Byculla	Do.	3 ,,	2,000
50	5th of Shravan Sudh	Bellasis road	Nagpanchmi	1 day	15,000
51	9th of Rajab... ...	Mount road	Agakhan alias Havali... ...	5 days	15,000
52	4th of Bhadrapad Sudh.	Mazgon Tank road	Ganpati	10 days	10,000
53	15th of Shravan Sudh	Do.	Cocoanut Fair	1 day	3,000
54	13th of Shaban ...	Undria street, Grant road ...	Fazli Alishah	1 ,,	3,000
55	16th of Rajab	Grant road (old cemetery) ...	Pir Karimshah	1 ,,	2 000
56	4th of Bhadrapad Sudh.	Love lane	Motishah's Temple	1 ,,	2,000
57	30th of Jilkad	Dadar	Pir Fattehali	1 ,,	1,000
58	30th of Chaitra Vadya	Parel	Wageshwari Temple	4 days	20,000
59	11th of Ashadh Sudh..	Matunga	Vithoba's Temple	1 day	50,000
60	11th of Shavval ...	Do.	Shiekh Misri	1 ,,	1,500
61	14th of Shavval ...	Mahim Bazaar road	Pir Makhdumshah(Mahim Fair)	10 days	28,000
62	2nd of Powsh Sudh...	Do.	Pir Hasanshah (Khoja Fair)...	4 ,,	15,000
63	11th of Kartik Sudh...	Lady Jamshetji road	Sitaladevi Fair	1 day	5,000
64	30th of Powsh Vadya.	New Parbhadevi road ...	Parbhadevi Fair	1 ,,	5,000
65	27th of Sahban ...	Agar Bazaar road	Sidi Fair	2 days	3,000
66	Last day of Safar ...	Mama Hajani(Hornby Vellard)	Chhela Budh	1 day	15,000
67	10th of Ashwin Sudh.	Native Town and Fort ...	Dasara	1 ,,	most of the population is out.
68	12th of Ashwin Vadya to 2nd of Kartik Sudh.		Divali	6 days	
69	10th of Muharram ...		Muharram	10 ,,	

APPENDIX III.

Area, Houses, and Population (1906 Census).

Ward	Section.	Area in Acres.	Houses.		Population.			Density. Per acre.	Number of occupied houses in 100 acres.	Average population per inhabited house.	Variation in density per acre between 1881 and 1906.
			Occupied.	Unoccupied.	Total.	Males.	Females.				
	1	2	3	4	5	6	7	8	9	10	11
A Ward.	Upper Colaba ...	144·19	38	6	3,775	2,808	921	26	26	100	+ 6
	Lower Colaba ...	283·92	430	220	15,310	10,064	5,246	54	151	37	— 2
	Fort, South ...	131·70	233	106	3,994	3,170	774	30	176	17	+ 3
	Fort, North ...	134·30	1,020	210	28,778	17,269	11,509	214	759	28	— 44
	Esplanade ...	663·77	598	135	11,015	7,747	3,268	16	90	18	— 4
B Ward.	Chakla ...	51·58	812	165	29,362	18,882	10,480	569	1574	36	—157
	Mandvi ...	164·66	915	342	38,158	23,211	14,947	232	555	42	— 30
	Umarkhadi ...	105·33	1,041	162	53,610	32,261	21,349	509	988	51	— 17
	Dongri ...	285·47	535	279	32,663	17,427	15,236	114	187	61	— 4
C Ward.	Market ...	89·11	902	191	35,305	24,534	10,771	396	1012	38	—162
	Dhobi Talao ...	99·69	1,126	193	36,594	22,778	13,816	367	1129	33	— 35
	Phanaswadi ...	125·23	802	135	29,240	18,533	10,707	233	640	36	+ 45
	Bhuleshwar ...	75·79	1,123	206	38,129	25,086	13,043	503	1481	34	— 5
	Kumbharwada ...	46·06	642	96	32,784	20,738	12,046	712	1393	51	— 66
	Khara Talao ...	41·64	575	105	26,935	16,906	10,029	647	1380	47	— 53
D Ward.	Khetwadi ...	170·30	1,255	321	33,579	20,968	12,611	197	736	27	+ 22
	Girgaum ...	124·60	1,027	206	28,449	17,388	11,061	228	824	28	+ 22
	Chaupati ...	111·77	775	306	13,033	7,765	5,268	117	693	17	+ 17
	Walkeshwar ...	545·43	1,354	495	12,685	8,448	4,237	23	248	9	+ 2
	Mahalakshmi ...	642·01	1,684	618	24,650	15,199	9,451	38	262	15	+ 21

E Ward.	Tardeo ...	228·68	593	275	28,193	16,352	11,841	123	259	48	+ 33
	Kamathipura ...	66·14	1,030	238	36,484	21,109	15,375	552	1557	35	+114
	First Nagpada ...	29·60	67	39	3,335	2,237	1,098	113	226	50	—210
	Second Nagpada	34·00	486	58	22,016	13,102	8,914	647	1429	45	+165
	Byculla ...	511·52	1,621	501	76,280	47,846	28,434	149	316	47	+120
	Tarwadi ...	479·68	1,057	565	26,278	16,439	9,839	55	220	25	+ 24
	Mazagon ...	638·59	1,216	435	30,872	18,481	12,391	48	190	25	— 1
F Ward.	Parel ...	552·45	1,182	552	46,960	28,774	18,186	85	213	40	+ 68
	Sewri ...	445·73	976	261	15,985	9,655	6,330	36	218	16	+ 23
	Sion ...	4,261·08	2,400	969	30,515	18,225	12,290	7	56	13	+ 3
G Ward.	Mahim ...	1,286·23	2,677	849	31,178	18,203	12,975	24	208	12	+ 5
	Varli ...	1,815·64	3,075	1,294	69,488	41,754	27,734	38	169	23	+ 28
Harbour and Docks, Railways and Homeless.		......	......	......	32,240	29,606	2,634	......	......	......	......
	Total ...	14,385·89[1]	33,267	10,533	977,822	612,965	364,811	68	231	30	+ 14[2]
	Total (1901) ...	14,342	30,125	8,718	776,006	479,786	296,220	51	221	26	......
	Total (1891) ...	14,281	31,072	8,324	821,764	518,093	303,671	58	217	27	......
	Total (1881) ...	14,245	28,315	3,230	773,196	464,763	308,433	53	198	25	......
	Total (1872) ...	11,520	22,214	7,565	644,405	399,716	244,689	56	191	21	......

[1]The principal increase is due to the portion of the sea at the Colaba railway station reclaimed by the Improvement Trust and the reclamations carried on at Tank Bander by the Bombay Port Trust.

[2]The sections which show considerable increases over the population of the census of 1872 are Mahalakshmi (471 p.c.), Byculla (173), Tarwadi (161), Parel (241), Sewri (258), Sion (164), Mahim (118) and Varli (592).

[3]The sex of 46 is not given.

APPENDIX IV.

Age, Sex and Civil Condition (1901 *Census*).

Age.	Married.	Unmarried.	Widowed.	Total.
MALES.				
0—10	1,164	59,000	28	60,192
10—15	3,886	38,518	112	42,516
15—40	190,063	85,531	9,938	285,532
40 and over	75,421	4,284	11,841	91,546
Total ...	270,534	187,333	21,919	479,786
FEMALES.				
0—10	2,211	56,245	132	58,588
10—15	11,102	17,269	703	29,074
15—40	119,957	12,723	19,121	151,801
40 and over	21,767	1,040	33,950	56,757
Total ...	155,037	87,277	53,906	296,220

APPENDIX V.

Age and Sex (1906 *Census*).

Age.	Males.	Females.	Total.
0—10	72,781	70,284	143,111[1]
10—15	53,545	32,217	85,762
15—40	380,833	198,827	579,660
40 and over	105,806	63,483	169,289

[1] The Sex of 46 children was not given. This figure and the figures of males and females (0-10) includes 2,456 males and 825 females whose ages were not specified.

APPENDIX VI.

General Distribution by Occupation (1901).

Order.		Proportion to total population.		Percentage of total Occupation of each order.	
		Actual Workers.	Persons supported	Actual Workers.	Dependents.
I.	Administration	1·71	3·52	49	51
II.	Defence	·47	·57	83	17
III.	Service of Native and Foreign States	...	...	69	31
IV.	Provision and care of Animals	·09	·16	55	45
V.	Agriculture	·30	·61	50	50
VI.	Personal, Household and Sanitary services	8·45	12·77	66	34
VII.	Food, Drink and Stimulants..	3·83	7·06	54	46
VIII.	Light, Firing and Forage ...	·28	·62	45	55
IX.	Buildings	·76	1·46	52	48
	Building Materials	*·15*	*·27*	*57*	*43*
	Artificers in building	*·61*	*1·19*	*51*	*49*
X.	Vehicles and Vessels... ...	·57	1·12	51	49
XI.	Supplementary Requirements	1·06	2·40	44	56
XII.	Textile Fabrics and Dress ...	12·75	20·10	63	37
	Cotton	*11·07*	*16·98*	*65*	*35*
XIII.	Metals and Precious Stones...	1·29	2·67	48	52
	Iron and Steel	*·49*	*·96*	*51*	*49*
XIV.	Glass, Earthen and Stoneware	·19	·39	48	52
XV.	Wood, Cane and Leaves ...	1·49	3·15	47	53
XVI.	Drugs, Gums and Dyes ...	·20	·41	48	52
XVII.	Leather, Horn and Bones, etc.	·95	1·72	55	45
XVIII.	Commerce	3·87	8·43	46	54
XIX.	Transport and Storage ...	4·90	7·75	63	37
XX.	Learned and Artistic Professions	2·42	5·93	41	59
XXI.	Sport	·03	·05	52	48
XXII.	Earthwork and General Labour	8·73	14·24	61	39
XXIII.	Indefinite and Disreputable...	·90	·96	94	6
XXIV.	Independent	2·14	3·79	57	43

APPENDIX VII.

General Distribution by Caste and Tribe (1901).

Caste or Tribe.	Population.			Percentage to total population in Bombay City.	Percentage to the total population in the Bombay Presidency.
	Males.	Females.	Total.		
HINDUS	315,902	192,706	508,608	65·5	2·5
Agri	2,285	1,812	4,097	·5	1·9
Bhandari...	9,696	7,233	16,929	2·2	10·0
Bhangi	2,885	2,047	4,932	·6	6·1
Brahman...	21,775	8,949	30,724	4·1	2·9
Chambhar or Mochi ...	10,639	7,694	18,333	2·3	5·9
Darji, Shimpi	4,674	2,510	7,184	·9	4·8
Dhobi or Parit	3,997	2,375	6,372	·8	7·5
Gavali	3,468	1,714	5,182	·6	12·5
Hajam	3,541	2,057	5,598	·7	3·0
Kasar or Kansara ...	1,394	1,071	2,465	·3	6·6
Kayastha Prabhu ...	1,580	1,342	2,922	·4	13·3
Kamathi	1,075	954	2,029	·2	42·3
Kharvi	3,937	1,267	5,204	·7	1·4
Koli	10,489	5,030	15,519	2·0	·9
Kshatri (Khatri)	3,668	2,484	6,152	·8	1·6
Kumbhar	1,812	1,284	3,096	·4	1·3
Lohar	2,806	1,436	4,242	·5	3·7
Mhar, Dhed	26,972	19,824	46,796	6·0	3·5
Mali	2,867	2,365	5,232	·7	1·8
Maratha	137,548	84,524	222,072	28·6	6·1
Panchkalshi	1,839	1,709	3,548	·4	38·0
Rajput	3,327	917	4,244	·5	1·1
Soni, Sonar	4,935	3,633	8,568	1·1	4·4

Caste or Tribe.	Population. Males	Females.	Total.	Percentage to total population in Bombay City.	Percentage to the total population in the Bombay Presidency.
Hindus—(*contd.*)					
Sutar	3,464	1,937	5,401	·7	2·5
Teli	2,044	1,468	3,512	·4	2·7
Vani	26,643	16,115	42,758	5·5	4·4
Vanjari	1,160	1,046	2,206	1·3	1·9
Others	15,382	7,909	23,291	3·0	...
JAINS	10,316	3,932	14,248	1·8	2·6
Oswal	2,765	1,038	3,803	·4	3·5
Others	7,551	2,894	10,445	1·3	...
MUSALMAN	96,311	59,436	155,747	20·1	3·4
Arab	4,179	1,940	6,119	·8	12·3
Bohra	7,334	4,658	11 992	1·5	10·1
Julhai	4,091	2,935	7,026	·9	73·4
Khoja	5,600	5,088	10,688	1·4	21·0
Memon	9,468	8,117	17,585	2·3	18·1
Pathan	5,307	2,331	7,638	1·0	4·5
Sheikh	57,113	32,409	89,522	11·5	9·2
Others	3,219	1,958	5,177	·7	...
CHRISTIANS	29,660	15,443	45,103	5·8	20·5
Europeans	8,752	3,448	12,200	1·5	38·2
Eurasians	1,749	1,509	3,258	·4	47·3
Native Christians... ...	19,159	10,486	29,645	3·8	16·3
PARSI	24,277	21,954	46,231	6·0	58·6
JEW	2,788	2,569	5,357	·7	...
OTHERS	532	180	712	·09	...
Total ...	479,786	296,220	776,006	100	3·0

CHAPTER IV.

CAPITAL.

Currency and Coinage, 1668.

After the transfer of Bombay by Charles II to the East India Company in March 1668 careful schemes for its development were considered both in India and England; and one of the earliest of these was a plan for the establishment of an English currency such as would, besides meeting local needs, gradually win its way into general use for purposes of trade. In 1670-71 the Court of Directors recommended that a Mint should be established at Bombay for coining gold and silver and subsequently small copper pieces of such purity as would make them pass among the natives as precious metal only,[1] which would not only facilitate their reception but would add to the credit and character of the Company. These coins were not to bear any resemblance to the King's coin and were to be such only as would render them current at the places where the Company traded. President Aungier and the Council at Bombay replied that the project could not be carried into effect, owing to the necessity of sending the bullion to Surat. Four sorts[2] of coins would be required, *viz.*, gold coins to be called *Carolinas* (in remembrance of the King's Majesty), silver to be called *Anglinas* (from the name of the Nation), copper or Copperoons and tin or tinnies.[3] The coins were to be given English names designedly, "for in this and all things else we endeavour to enure the people and teach them the English tongue, and to disuse also the

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[1] See Court's letters to Surat and Bombay, 22nd February 1671; Bruce's Annals, II. 279-280.

[2] Specimens of Aungier's Anglina and Copperoon may be seen in the British Museum. They are very rough pieces and the same stamp seems to have been used in both cases. Their weights are respectively 177·2 and 209·6 grains. There is no evidence that the gold Caroline was ever struck. *Vide* William Foster's note on the first English Coinage at Bombay (1906).

[3] See Bombay letters to Court of 14th June and 7th October 1672. Bruce, II. 318.

Portuguese as much as we can, which will be a work of long time, because these people have been long accustomed thereunto."[1] Thus matters rested until 1675 when President Aungier again suggested the establishment of a Mint in Bombay.[2]

On 15th October 1676 the King by Letters Patent empowered the Company to establish a Mint at Bombay and permitted them to coin moneys of gold, silver, copper, tin, lead or any metal corresponded of these to be current in all the dependencies of the Company in the East Indies[3] and to be called rupees,[4] pices and bujruks or any other 1676.

[1] See Bombay letter of 21st December 1672 (O.C. 3722), Fac. Records, Vol. vi.

[2] See Bombay letter to Court of 18th January 1675 in Bruce, II. 368-369.

[3] See letters from Court to Surat, 7th March 1677 in Bruce, II. 392.

[4] The use or employment of the word *Rupia* a Rupee in the annals of Indian coinage in general is of a comparatively modern date. * * * Shir Shah of the family of Suri was the first to introduce the word *Rupia* in substitution for the silver *Tanka* between the years 1540 and 1545, a designation which was soon adopted by the Mughal Emperors, by the Portuguese and the East India Company. Abul Fazl bears witness to the fact of the word *Rupiah* not being in use before the reign of Shir Shah. He writes :—"*Rupiah* is a silver coin of round form, in weight 11¼ *mashas*. It was first introduced in the time of Shir Shah and under the present reign (that of Akbar) it has been revised and made more pure." The Ain-e-Akbari seems to relate to the year 963 A.H., 1556 A.D.

The origin of the word Rupee has been traced to two sources, *viz.*, Sanskrit *rupa* meaning 'figure', 'image', and *rupyam* which means 'silver'. Panini uses the word 'Rupya' in the sense of 'struck' derived from *Rupa* 'form', 'shape', &c. (see Vopa Deva xxii., 2). The latter derivation, *i.e.*, that from *Rupyam* or silver appears to be correct, as no Muhammadan prince would allow any effigy or figure to be impressed on his coinage. * * * * This derivation bears out also the argument of analogy from an ancient source. The Greeks, for instance, employed among themselves the general term 'silver' for money; in like manner the chief silver coin of India has now for more than three centuries received its name from '*Rupyam*', or modern vernacular '*Rupem*' (silver). Mr. E. Thomas, an eminent authority on Oriental Numismatics, says that the origin of the Indian Rupee, not with reference to its name but as far as its weight is concerned, "may be traced up to very early times in the Aryan *Sataraktika* or *Sata Krishnala*, the ever one hundred Rati weight, which formed the basis of the standard gold and silver pieces of the early Pathan kings of Delhi (A.D. 1228) each of which weighed 100 *Ratis* or 175 grains, and were conventionally termed *Tankas*." The Indian Antiquary, Bombay, 1882, Vol. XI., page 318. The Journal of the Bombay Branch of the Royal Asiatic Society, 1883, No. XLII, Vol. XVI, pages 22-23.

names theCompany might adopt provided they were not the names of any coins current in the King's dominions. The grant of the privilege was intimated by the Company to Surat in March 1677 and in the same year a Rupee was struck at Bombay bearing the Royal Arms and the legend, " By authority of Charles the Second." Evidently no attempt was made to continue Aungier's fanciful nomenclature, for the coin is stamped " The Rupee of Bombaim." With this rupee the regular issue of dated coins[1] appears to have begun. The difficulties with which the Mint and the new coin had at first to contend were great. The envious Portuguese hindered the passage of the tin coin in their territory and its transport to the main, thus greatly abating the value of the coin. The supply of money for the purposes of the Mint was also very deficient. A Surat letter to Bombay, dated 12th September 1676, on the subject observes : " We cannot spare so considerable a quantity of money as you desire from our great engagements at interest. If hereafter you shall be in want of money we shall duly satisfy your bills when you draw them as hitherto we have done." [2] Ten years later (29th December, 1686) a proposal was apparently made by the Company to alter the value of the rupee, to which the Bombay Council strongly objected on the score of the high price of provisions occasioned by hostilities with the Mughals, Marathas and Portuguese.[3]

By the provisional convention negotiated by Sir John
1688. Child (about 1688) with Mukhtyar Khan, the new Governor of Surat, the Company were allowed to coin money at Surat in the Mughal's mint-house. But the Court preferred acting on the authority given by their Charter

[1] The earliest known coins of the Bombay Mint are the four Rupees in the British Museum, dated 1675, 1677, 1678, and again 1678, respectively. The first has stamped on the reverse the arms of the old India Company and the remaining three the Royal Arms of England, *viz.*, quarterly, the three Lions of England, the Lion of Scotland, the Harp of Ireland, and the three fleur-de-lis of France. In a Bombay Rupee of 1687 the Company's arms reappear on the reverse. See "The Coinage of the East India Company at Bombay", by the late Edward Thomas, in the Indian Antiquary XI., 313, and Birdwood's Old Records.

[2] Bombay Gazetteer Materials, Part II, 207.

[3] Bombay to Court, 29th December 1686, See Out. L. B. 4 of 1677-87, 42, Forrest's Home Series, I. 149.

for a Mint at Bombay, in the belief that this would impress the natives with the importance of the place, and that in time they would be able to supply the Bengal market with rupees coined at Bombay. Failing this, they hoped to exchange their Bombay rupees for those coined at Surat, which would pass current in Bengal or in any part of the Mughal's dominions. They also suggested that the Bombay coinage ought to include gold mohurs as the Company had the Mughal's *Phirman* and the King's authority to exercise this branch of delegated sovereignty.[1]

During the first half of the eighteenth century a considerable quantity of silver rupees of varying coinage and alloy and of a value inferior to the standard of the Bombay and Surat rupees used to be brought to Bombay from the inland provinces.[2] They were then bought up by the shroffs and other people at an unreasonable discount and passed by them in payment for goods and merchandise bought at a less discount and sometimes at par, to the great prejudice and discouragement of trade in general. This practice had been carried on with impunity notwithstanding a publication issued by order of the Board under date 14th February 1729; and in consequence a further notification was issued in 1733 in the following terms:—"All persons whatever inhabitants of this island who have in their possession any number of rupees above ten of any coin or alloy other than those of Surat and Bombay shall in ten days after the issuing of the said publication bring the said rupees to the Honourable Company's Mint where due attendance shall be given to receive and exchange them for their real value, discounting only one per cent. for their recoinage. All persons not duly observing this our publication shall forfeit all such sum or sums of foreign rupees as shall be found in their custody ten days after the issuing thereof, one-third to be paid to the informer and two-thirds to the Honourable Company. But all strangers who shall

1 See Court's letters to the General and Council of Bombay from 11th April 1688 to 19th March 1689 in Bruce, II. 614, 618.

2 Government Consultation 9th July 1728, Pub. Diary 3 of 1727-28, 150-151.

bring the said foreign rupees hither and are not willing to exchange the same in the Mint, but desire to export them again, shall in three days after their arrival declare to the Custom Master for the time being the quantity they desire to export. Finally it is expressly prohibited that any rupees but those of Surat and Bombay shall be tendered or received in payment as current coin under the penalty of forfeiture to be incurred by the tenderer or receiver".[1] Persons were appointed at the Land Pay office to exchange rupees for pice at the rate of 80 pice for a rupee. The same practice appears to have obtained in the case of copper coin, for in 1743 an order was issued that no pice but those coined in the Bombay Mint were to be received into the Treasury.[2] This was due to the introduction of large quantities of pice, of much less value than the Bombay pice, from the Maratha dominions. Two years earlier scarcity of copper had obliged the local authorities to coin tutenague pice to the value of Rs. 2000.[3] This coin was current until 1773 when it was discontinued.[4]

In 1751 the Council, being in want of gold to send to Karwar to pay for the pepper contracted for at that place, directed the Chief and Factors at Surat to purchase from 10,000 to 15,000 Venetians on the most reasonable terms they could and to send them down to Bombay by the first proper currency;[5] while in 1757 the want of small currency led to the coinage of half and quarter pice to the value of Rs. 10,000.[6] In the middle of the eighteenth

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[1] Bom. Gov. Consultation 7th December 1733, Pub. Diary 5 of 1732-33, 275-76.

[2] Bom. Gov. Consultation 21st January 1743, Pub. Diary 16 of 1743, 19.

[3] The English in India aimed at assimilating their issues of money as closely as possible to those of their neighbours in diverse parts of the country; for many different coinages were current in India, whilst the currencies of different provinces were of unequal values. Hence arose the office of shroff. The English in early days imitated the Portuguese currency, probably to meet the facilities of commerce. The Journal of the Bombay Branch of the Royal Asiatic Society, 1883, No. XLII, Vol. XVI, page 37. Pub. Diary 14 of 1740-41, 68.

[4] Pub. Diary 64 of 1773, 814.

[5] Pub. Diary 26th March 1751. Pub. Diary 24 of 1751, 102.

[6] Government Consultation, 2nd August 1757, Pub. Diary 30 of 1757, 289.

century great scarcity of silver prevailed on the island which eventually led in 1765 to the establishment of a gold currency. In November of that year the Council resolved "that a gold coin to contain exactly 38 *Vals* of pure Venetian gold be established to pass current for Rs. 15. This the Mint Master is accordingly ordered to make, also halves and quarters of the same, with the Honourable Company's arms on one side and Bombay with the year on the other. That trial of this coin be made for the present to the amount of Rs. 60,000 and should it be found to answer, more may be made hereafter. As from the present low price of gold the Honourable Company will gain considerably by this coin, it must at all times be changed at the treasury whenever tendered for that purpose."[1] Two years later (1767) the Rupee currency was regulated by the issue of a publication requiring that Bombay rupees whether cracked, broken, chopped, with holes or otherwise, should be within one *gunj* of full weight (100 *gunjas* making a rupee) and that "all Mahmed Shaw and Amud Shaw Surat Rupees, whether broad ones, cracked or even chopped or with holes on the rims, provided they are not chopped or with holes on the facing, and are full weight, be received and passed as current at the full value of 80 pice the rupee."[2] This resolution equalised the standard of Surat rupees with the standard of those coined at Bombay and tended to put a stop to the currency of Broach rupees, the continuance of which was considered to be highly prejudicial to the interest of the Company as well as to that of private merchants. A few years later however (1774), after the Company had obtained possession of Broach, the rupees coined there were again admitted as current in Bombay.[3]

In 1771, the President and Council taking into con- 1751—1800.
sideration the great want of specie which then prevailed

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[1] Bom. Consultation, 5th November 1765. Pub. Diary 45 of 1765, 707.

[2] Bom. Consultation, 28th April 1767. Pub. Diary 48 of 1767, 293.

[3] Bom. Consultation, 20th December 1774. Pub. Diary 66 of 1774, 900.

and observing that the vast expense of the new fortifications carried away almost all the money they could raise agreed to retain not more than 2,500 men out of the 5,000 that were employed thereon, and these the Principal Engineer was directed to employ on such works as were most immediately necessary. The Principal Engineer however proposed to the Council that the number of men to be discharged, whose monthly pay amounted to Rs. 10,878, might continue to be employed on condition of receiving for six months a paper currency equal to the above amount provided that ¾ths of the said paper currency should at all times be received into the Honourable Company's treasury at interest the same as cash.[1] The President and Council were of opinion that such a paper currency would be attended with great inconvenience and they confirmed their former resolution.[2] In 1744 orders were issued for the coining of gold rupees of the same fineness as that of a Venetian but with a weight of 40 *vals* instead of 38 as before and with the same impression as the silver rupees. It was hoped that by thus raising the real value (as they were to pass for 15 silver rupees as before) they would be current in the adjacent countries and that as the price of gold was then low, some profit would still arise by coining it into rupees of the weight and standard above referred to. It was further decided, in order to increase the currency of the place, to permit private persons to coin gold in the mint on their paying the customary duty of 1½ per cent.[3] Again in 1775 owing to the want of silver currency the Council decided to coin gold to the amount of Rs. 60,000 in pieces of the value of one silver rupee each to be in fineness exactly equal to the gold rupees then current and of 1/15 part of the weight of a gold rupee.[4] The issue of the gold rupee was even-

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[1] Pub. Diary 57 of 1771, 195.

[2] Bom. Consultation, 19th March 1771. Pub. Diary 57 of 1771, 181-182.

[3] Bom. Consultation, 18th June 1774. Pub. Diary 65 of 1774, 422-423.

[4] Bom. Consultation, 25th April 1775. Pub. Diary 67 of 1775, 355-356.

tually stopped in 1778, as the troops were found to suffer by being paid in that coin.[1] An export duty of 3 per cent. was imposed in 1770 on all unwrought silver and foreign silver coins exported from Bombay and Surat, except when destined for China, Batavia or other Presidencies; but five years later this order was modified to allow of the free export of silver to places north of Bombay and Surat. The duty was by the same order imposed upon exports to Malabar, Batavia, China and other Presidencies.[2]

The old Bombay rupee was identical with that coined at Surat under the Mughal Government. It weighed 178·314 grains and contained 1·24 per cent. of alloy. By an ancient agreement with the Nawab of Surat, the rupee of both Governments was to circulate through the territories of both parties at an equal value; while they mutually pledged themselves to maintain the coin at its standard of weight and fineness. The Nawab, however, did not observe this agreement; for his rupees were found soon afterwards to contain, instead of 1·24 per cent. of alloy, no less than 10, 12 and 15 per cent. In consequence all the Bombay rupees were carried to Surat to be re-coined, and the Bombay mint ceased to coin silver for more than 20 years, the only coin in circulation being the Surat rupee. In 1800 however Government ordered the Surat rupee to be struck in the Bombay Mint, and from that date the rupee was maintained at an equal value in both mints. It weighed 179 grains and contained 7·97 per cent. of alloy. 1800—1835.

In the gold mohur, ordered to be struck in 1774, 14·9 grains of silver represented 1 grain of gold, such being the proportion between the quantity of gold in this coin and the silver in 15 old Bombay rupees. When the Surat silver currency monopolised circulation this proportion between gold and silver was destroyed, so that gold coined according to the regulation of 1774 was now exchanged for no more than thirteen times its weight

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[1] Bom. Consultation, 25th March 1778. Pub. Diary 73 of 1778, 142.

[2] Pub. Diary 67 of 1775, 355. Comp. of Standing Ord. Vol. 2 of 1759-1788, 103.

in silver and often for much less. In order to remedy this disproportion, an order was issued in 1800 that the gold mohur should be of the same weight as the silver rupee, that it should contain the same quantity of alloy and that it should pass for 15 rupees.[1] Thus in the Bombay coins 15 grains of silver represented one of gold. A scarcity of rupees in 1801 was responsible for the introduction of new gold coin as a circulating medium, which was described in the following announcement:— "Small gold coins have been stamped and issued from the Mint of Bombay equal in value to one silver rupee which gold coins it is hereby declared will be received in all payments at the treasury of Bombay and of Surat and in all payments of revenues or purchases, etc. * * * * It is hereby intimated and made known that the gold coins above mentioned have or bear the same stamp or impression (*viz.*, the Surat impression) with the gold Mohur of 1800 and 1801 coined at Bombay and issued from the Mint of Bombay, being of the same fineness with such gold Mohur, *viz.*, 92 touch and that 15 in number of such gold coins shall weigh one tola. * * *"

In October 1815 the mint at Surat was abolished by Government and it was decided that the whole coinage of the Presidency should be conducted at the Bombay Mint. This was followed in October 1824

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[1] Milburn's Oriental Commerce, Vol. I, 174.

The following is the relative table of the Bombay current and imaginary coins which existed in 1802:—

2 Reas	=	1	Urdee.
4 Reas	=	1	Dooganey or single pice.
6 Reas or 3 Urdees	=	1	Dorea.
8 Reas or 4 Urdees	=	1	Fuddea or double pice.
3⅛ Fuddeas or pice	=	1	Anna.
12½ Pice or 4 Annas	=	1	Quarter Rupee.
25 Pice or 8 Annas	=	1	Half Rupee.
50 Pice or 16 Annas	=	1	Rupee.
5 Rupees or 80 Annas	=	1	Paunchea.
15 Rupees	=	1	Mohur.

The 2 Reas, 1 anna and 1 quarter-rupee were imaginary. In accounts the coins were confined to the following reckoning:—

100 Reas	=	1	Quarter.
4 Quarters	=	1	Rupee.

Accounts were kept in rupees, quarters and reas.



THE TOWN HALL AND MINT, 1864.

by the issue of a new rupee of the weight and standard noted in the margin.

Weight Troy grains	...	180
Pure silver grains	...	165
Alloy do.	...	15
Touch on Parts of pure		
Silver ...	per cent.	$91\frac{2}{3}$
Alloy ...	per cent.	$8\frac{1}{3}$
		100

This rupee and its subdivisions were declared to be current at par with the then existing Bombay rupee and its subdivisions, within the territories subordinate to this Presidency, and as such receiveable wherever the latter rupee and its subdivisions were current as legal tender in all public and private transactions. In 1827 the copper pie was introduced,[1] and in March 1831 the old pice were by a proclamation made current until further orders at the established rate of 50 to the rupee and exchangeable for the supply in the General Treasury at the rate of 64 quarter annas for 50 of the old pice. In 1832, two proclamations regarding the new coinage at the Mint were issued by Government. The first of these related to the gold and silver currency of the Presidency, the second to the new copper coinage. The latter was altered both in denomination and weight and was to be of the following description. The pie weighing $33\frac{1}{3}$ grains was to be current as one-twelfth of an anna. The quarter-anna was to weigh 100 grains. The new copper coin was thus much higher than that which it superseded and was also of smaller denomination. The silver however was allowed to remain as it was, both as regards weight and standard. No alteration was made in the gold coin.[2]

The coinage of India was made uniform in 1835 and 1835—1909.
the Indian currency then was exactly of the same denomination and value as at present. The East India Company's rupee was ordered to take the place of the *Sicca* rupee in all contracts which under the orders issued in 1795 were not considered valid unless payment was made in the latter. The East India Company's rupee

[1] Bombay Quarterly Review, October 1857. No. XII, page 252.

[2] There was also a small gold coin of the value of a Rupee. (The Bombay Register and Directory, 1832.)

thus became the current medium. The difference between the *Sicca* rupee and the Company's rupee was that the former contained 8 per cent. more silver than the latter. A petition signed by the leading merchants of Bombay was during the year submitted to Government who in reply stated that they were not prepared to undertake the substitution of rupees of the new coinage for those then in circulation. Government observed that old rupees *bona fide* the coinage of the Bombay Mint were exempt from the charge of 2 per cent. mint duty on recoinage; that such old rupees were receivable at the new mint by weight, in quantities not less than a thousand tolas and the usual bullion certificate was granted on the treasury for an equal weight of current coin. By this process the holders of the old rupees had the option of exchanging them for new coin at a sacrifice only of the loss by wear and of the interest accruing till the bullion certificate fell due.[1] In 1841 the 2-anna silver piece was introduced, and in the same year a proclamation was issued regulating the gold coinage. The coins were now to bear on the obverse the head of the late Queen Victoria, with the words "Victoria Queen, 1841"; and on the reverse a lion and a palm tree with the designation of the coin in English and Persian below and around the margin "East India Company." A change in the device on the copper coinage issued from the Bombay Mint was likewise made in 1844. Henceforth the quarter anna piece or pice was to have on the obverse the armorial bearing of the East India Company, omitting the words "East India Company" round the margin of the old coin. On the reverse of the new coin was to be given its value in English and in Persian, encircled by a wreath with the words "East India Company" round the margin. The scales on the old coins were not to appear on the new. Similar alterations were made in the half anna and pie, substituting the words denoting their respective values for the scales. This new copper coinage was not to prejudice the currency of copper coins of the devices previously established.

[1] The Bombay Courier, 27th January 1835.

The following table exhibits the scheme of the British India Monetary system as existing in 1857 :—

Gold Mohur.	Silver Rupee.	Copper Anna.	Pice.	Pie.
1	15	240	960	2880
	1	16	64	192
		1	4	12
			1	3
				1

The subdivisions used in the public and other accounts were rupees, annas and pies. Many mercantile houses and traders in Bombay however still retained the old subdivisions of rupees, quarters and reas, one hundred reas, an imaginary coin, being counted as equivalent to a quarter of a rupee. Although the gold mohur and copper anna formed subdivisions in the scheme of the British Indian currency, those coins were not current—the former because it was not legal tender and the latter because it had never been coined. Besides the coins mentioned above as being current, silver halves, quarters and eights were also current together with the copper half-anna and half-pice, the former being in extensive circulation and the latter having been recently ordered to be struck.[1] The introduction of the Government copper currency was at first hampered by the unwillingness of traders to accept copper money at other than its intrinsic value as metal. A rupee's worth of the *dabhu* pice coined by Native States weighed 21lbs. 0 oz. 18 dwts. 21 grs., while the Company's pice weighed only 1 lb. 1 oz. 6 dwts. 16 grs. to the rupee. Orders were therefore issued directing that in districts where the new copper coinage was not in general circulation silver should be given at par rates for copper of the new coinage and *vice versa*, when tendered in sums of not less than Rs. 10. The Directors of the G. I. P. Railway Company also stated that they would endeavour to make it a stipulation with their

[1] Bombay Quarterly Review, October 1857, No. XII, p. 249-64.

contractors to pay labourers exclusively in the Mint copper currency.

Pursuant to the provisions of Acts XIX and XXIV of 1861, an agreement was entered into with the Bank of Bombay on 28th February 1862 whereby the balance and business of H. M.'s General Treasury at the Presidency were transferred to the Bank, which at the same time undertook an agency for the issue and payment of the Government paper currency notes at the Presidency. This agreement came into operation on the 1st March 1862 and was in the first instance for a period of 5 years, being renewable on the expiry of that period with or without modification as might be agreed between Government and the Bank. The amount of Government currency notes in circulation on the 30th April 1862 was Rs. 150 lakhs and a corresponding amount in silver coin or bullion (coin Rs. 28 lakhs and bullion Rs. 122 lakhs) was in reserve with the department of issue on the same date. About the same date (February, 1862) the Government of India sanctioned the sale, at a discount, of copper coin, and a large issue took place. The benefit of this measure was very great to the poorer classes, who were relieved of the charge of one anna to two annas ($6\frac{1}{4}$ to $12\frac{1}{2}$ per cent.) hitherto made by the native shroffs on every rupee for which copper change was given.

Act, XVII of 1835.
,, XIII of 1862.
,, XXIII of 1870.

Up to the year 1893 the operations of the Indian Mints were regulated by the Coinage Acts noted in the margin, which provided for the free coinage of gold and silver for the public and for the coinage of copper for Government regiments. The gold coins struck in the Mint under these Acts were *mohurs*, sovereigns and half-sovereigns of the nominal value of Rs. 15, Rs. 10 and Rs. 5, respectively. There was also a double *Mohur* of the value of Rs. 30. But there was no great demand for a gold coinage, the coins being struck almost entirely for ceremonial occasions. It was otherwise, however, with the free coinage of silver, of which the public took full advantage. Under the terms of the Coinage Acts in force up to 1893 any person tendering silver to the Mint to the amount of 1,000 tolas and over was

entitled to have it coined into rupees on payment of a seignorage charge of Rs. 21 per every 1,000 Rupees of outturn produced by his tender. The largest outturn during the free coinage period was in 1877-78, the year of a great famine, when it reached the very large total of Rs. 11,04,39,039. Although this figure has been exceeded in recent years, when more complete resources have been available, yet considering the comparatively small amount of machinery then contained in the Bombay Mint the above outturn was extraordinarily large. The coinage of small silver coins and of copper has usually been undertaken in the Bombay Mint, only when the coinage of rupees has not sufficed to keep the mint working full-time, the bulk of the subsidiary coinage being carried out in the Calcutta Mint. For the past 18 years, with the exception of a small amount of copper coined for the British East Africa Protectorate, no copper coinage has been carried out in the Bombay Mint.

In June 1893 the Indian Mints were closed to the free coinage of gold and silver on the recommendation of the Indian Currency Committee and since that date no rupees have been coined except on Government account or in connection with schemes for the conversion of the currencies of certain Native States. Shipments of silver aggregating in value over £ 2,000,000, which had been consigned to India for coinage into rupees before the issue of the notification of June 1893, were taken over by Government from the importers at a valuation and converted into rupees on Government account. In 1895 an agreement was effected between the Government of India and two of the local Exchange Banks for the coinage of a British dollar at the Bombay Mint for circulation in the Straits Settlements and Hongkong, which ceased in 1903 when the Government of the former colony issued a new coin called The Straits Settlements Dollar for circulation in their territories. This coin also was struck in the Bombay Mint. The coinage of rupees on Government account, which had been in abeyance for about 6 years, recommenced in 1900-1901 and has since then assumed very large proportions in

harmony with the progress of the trade of the country within the last few years. The coinage of the present rupee with the effigy of His Majesty King Edward VII was commenced in January 1903. A new nickel coin of the value of one anna was introduced into currency and minted in Bombay in 1907.

Banks.

The earliest mention of a bank in Bombay is in 1720. It was established in December of that year for the benefit and advantage both of the Company and the inhabitants, the capital stock of the bank being one lakh of rupees advanced by the Company from their cash. The Bombay Government supervised the management of the bank; the interest allowed on deposit was one *dugani* a day for Rs. 100 ; and the interest charged on loans was 9 per cent. plus 1 per cent. for management charges. During the first twenty-four years of its existence the bank did not prosper. Sums were lent on personal bonds; no care was taken of the securities pledged; and some of the debts were of 20 years standing and the oarts and houses mortgaged to the bank had fallen into decay before the accounts were settled. In 1744 the debts outstanding amounted to Rs. 1,00,313, out of which only Rs. 42,900 were covered by security : and regulations were therefore passed in that year to prevent further difficulties of this nature in the future. For thirty years longer the bank worked smoothly. The East India Company owed the bank 8 lakhs, to discharge which Government in 1770 authorized the managers to issue notes and revise the system of loans and deposits. But the issue of notes was postponed owing to the prevailing scarcity of money. In 1778 the sum due from bond creditors amounted to nearly 28 lakhs and the debt due from the Government treasury to the bank had reached a very high figure and was increasing annually by the accumulation of interest.[1] The Government of Bombay therefore proposed to fix the debt at a certain sum, write it off and establish a new bank as soon as the state of the finances permitted of such a course. Thus the career of the first bank closed.

During the 19th century banking in Bombay was carried on by about 100 Hindu shroffs until the establishment

[1] Forrest's Selections, II. p. 216.

of the Bank of Bombay. These shroffs were in many cases possessed of great wealth and rendered considerable service to Government.[1] Their business premises were for the most part in Bazaar Gate street, and their bills and *hundis* were accepted and honoured in all parts of India. In 1835 Government established a savings bank in the Castle, and in 1836, when commerce was rapidly expanding and the town had abundance of capital, the question of establishing a Bank of Bombay was first brought forward. The need of a bank was accentuated when Government shortly afterwards withdrew the privilege of making deposits and transfers at the Treasury; and the difficulties experienced by the public were not obviated until 1840 when the Bank of Bombay after protracted delay opened for business. It commenced work with a capital of 52½ lakhs, its business being confined to receiving deposits, keeping cash accounts, discounting bills and drafts and other investments, and until the establishment of a Government Paper Currency Office in 1860 it enjoyed the privilege of issuing bank notes. In 1842, in order to give every facility for the conduct of exchange and other legitimate banking business from which the Bank of Bombay was by its charter excluded, a company was formed at Bombay under the title of the Bank of Western India, having a capital of 50 lakhs. Business opened in October 1842 and branches were established in Calcutta, Colombo, Hongkong and Singapore. Work was chiefly confined to exchange loans and deposits under certain restrictions and continued until 1845 when the shares fell to a premium of 40 or 42 per cent. and the shareholders, desirous of bringing the company under the provisions of the Joint Stock Company's Act for the purpose of obtaining Royal Letters Patent to enable the bank to sue and be sued in a corporate capacity, formed themselves by a fresh deed of agreement into a new company under the name of the

[1] One Bansilal Abhechand gave great assistance to the Bengal Government during the Mutiny (*Times of India*, 27-9-1895). In 1802 Pestonji Bomanji relieved Government at a most critical period. Another well-known firm in Bazaar Gate street was managed by Atmaram Bhukun, whose place of business was familiarly known as Kaka Parekh's *Pedhi*. It came to grief in the speculation mania.

riental Bank.[1] The principal features of the new deed were the transfer of the government of the bank from Bombay to London and the doubling of its capital.

In 1845 a third banking company known as the Commercial Bank of India was formed mainly on the suggestion of native merchants for the purpose of encouraging and assisting local trade, which it was felt was not sufficiently aided by the two banks mentioned above. This bank had no charter, and its shares, which numbered 8,772, were taken up almost in a day by a large body of residents. In 1851 there were two banks in Bombay besides the Government Savings Bank and two branches of other institutions. The Oriental Bank of London had a branch in Bombay under a board of directors and the Agra and United Service Bank, established in 1833, also had an agency here. During the next five years three more banks were opened, of which two were branches, one of the North-Western Bank of India and the other of the London and Eastern Bank. The new Chartered Mercantile Bank of India, London and China was of local origin. The capital of the three local banks in 1855 was about 150 lakhs. Between 1855 and 1863 the branches of the London and Eastern Bank and the North-Western Bank of India closed their business in Bombay; but the Chartered Bank of India, Australia and China, incorporated by Royal Charter, opened an agency here, and in 1860 a new bank, styled the Central Bank of Western India, was established with a capital of 50 lakhs. The directors were chiefly natives, and the bank had branches in London, Calcutta, Madras, Hongkong, Shanghai, Yokohama, Melbourne, Indore, Ahmedabad, Surat and Sholapur.

By 1862 two European corporations, the Sind, Punjab and Delhi Corporation and the Comptoir d' Escompte de Paris, had opened branches in Bombay. The year 1863-64 was one of great prosperity and enormous

[1] It is stated that Dadabhai Pestonji Wadia, the first native who was conspicuously connected with banking enterprise in Bombay, held three-eighths of the Oriental Bank shares. (*Times of India*, 17-8-1895). The great building of which Messrs. W. and A. Graham & Co. have been the owners for the last fifty years originally belonged to this Parsi merchant.

wealth poured into the city in consequence of the cutting off of the American cotton supply. This sudden increase of wealth engendered the wildest speculation and resulted in 1863 and 1864 in the formation of numerous banking and financial associations. The whole community of Bombay became utterly demoralized and abandoning business gave themselves up to the delusion that they could all succeed in making fortunes on the Stock Exchange. The Agra and United Service Bank adopted a new name; the Commercial Bank of India changed its headquarters to London under the title of the Commercial Bank Corporation; and fourteen new local banks and seven new branch banks were established. Thus in Bombay at this date there were 18 local banks (besides 5 exchange banks) with an aggregate nominal capital of 1,255 lakhs,[1] 32 financial associations and corporations with an aggregate nominal capital of 29 crores of rupees of which the amount paid up was nearly 7 crores. Out of those newly founded not one survived by 1871. Only five Exchange banks survived. The old Bank of Bombay was reconstructed in 1868,[2] and the Hongkong and Shanghai Bank and the Agra Bank of London opened branches in the city about 1869. The Bank of Bengal, which had been established in 1809, opened an agency in Bombay in 1867.

During the decade ending 1880 the branch of the East India Land Credit and Finance Company of London closed their business in Bombay. Up to 1890 banking made steady progress, but during the next fifteen years the business had to face periods of stagnation caused by bad seasons and the outbreak of plague. The chief features of this period were the disappearance of the Land Mortgage Bank of India and London, the Agra Bank and the Oriental Bank Corporation, the closing of

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[1] For a detailed account of these banks, see Maclean's Guide to Bombay (1900), p. 112.

[2] For a detailed account of the Bank of Bombay, see chapter on Places and Objects of Interest. The first Bank of Calcutta was established in 1806, the Bank of Madras having been established in the preceding year. At that date Messrs. Bruce, Fawcett & Co. acted as bankers to the Bombay Government.

the Government Savings Bank and the winding-up of the National Mortgage Bank which had opened some few years before. At the present date (1908) Bombay contains three local Banks, two branches of Indian Banks, three of London Banks and four other banks.

The following table shows details of the various banks now (1908) existing in Bombay City :—

Name of the Bank.	Head Office at	Date of the Establishment of the Bombay Branch Agency or of the Bank.	Nature of Business.
Mercantile Bank of India, Ld.	London ...	1854 ...	The business mostly transacted in Bombay is financing of exports of cotton, yarn and seeds and imports of piece-goods, bullion, machinery, etc. Negotiates and collects bills, grants drafts on the head office and branches and issues letters of credit; undertakes purchase and sale of Government securities.
Chartered Bank of India, Australia and China.	London ...	1858 ...	Exchange and general banking business.
Comptoir National D'Escompte.	Paris ...	1861 ...	General banking business.
National Bank of India, Ld	London ...	1863 ...	General exchange remittances and receives deposits.
Bank of Bengal (Agency).	Calcutta ...	1867 ...	Does not receive money on deposit. Being an agency the business is limited.
Bank of Bombay ...	Bombay ...	1868 ...	(*Vide* separate article under Objects and Places of interests.) The business is of general nature. The Bank receives public and other deposits and has charge of the Government Treasury and acts as Agent for Bombay Municipality, Improvement Trust and Port Trust.
Hongkong and Shanghai Banking Corporation.	Hongkong.	1869 ...	General banking and exchange business. Receives money on current and fixed deposit accounts, issues drafts, and buys bills on the chief commercial places of Europe, Australia, America, China and Japan. Purchases and sells bullion and receives securities for safe custody.
Yokohama Specie Bank Limited.	Yokohama.	1894 ...	Principal transactions of the branch are for the exchange business on Japan, China and Europe.

Name of the Bank.	Head Office at	Date of the Establishment of the Bombay Branch Agency or of the Bank.	Nature of Business.
Alliance Bank of Simla.	Simla ...	1903 ...	General banking business.
International Banking Corporation.[1]	New York..	1904 ...	The Bombay branch acts as agent for the Bank's branches in China and does business almost solely in exchange.
Bank of India ...	Bombay ...	1906 ...	General banking business. Purchases bills on London or drafts on any place where there is a Banking institution, sends remittances and gives loans, etc.
Indian Specie Bank, Limited.	Bombay ...	1906 ...	Has branches at London, Calcutta, Karachi, Surat, Poona, Ahmedabad, Bhaunagar and Shikarpur. Does banking business such as lending money on the security of saleable goods, Government paper, shares, stocks and other authorized securities, discounting local and foreign bills and importing gold and silver.

Capitalists and Investments.

The capitalists of Bombay belong to various classes :—Bhattia, Jain, Marwadi, Bania, Khoja, Memon, Bohra, Parsi, and Jew; while among the Gujarat and Deccan Brahmans, the Sonars, the Arabs and the Hindus from Multan will be found a certain number of rich individuals. The Bhattias are chiefly cloth-merchants, landlords and mill-owners; the Jains of Gujarat are bankers, jewellers, shroffs, and commission agents, while those of Cutch are grain merchants and cotton-brokers; the Marwadis are money-lenders, and speculate in opium, cotton, silver and gold; the Banias do the same and are traders of every denomination; the Khojas are landlords, mill-owners, general merchants, contractors, and do a large trade in imports and exports; the Bohras and Memons are landlords, contractors, stationery merchants and general traders. The Parsis are ubiquitous in every branch of trade; the European capitalist is usually a large importer and exporter; while many Hindu and Jain capitalists are stock and share brokers. Among the classes who save money the Marwadis are pre-eminent, being of extremely simple and thrifty habits. They employ

[1] Before 1904 Messrs, W. & A. Graham & Co. acted as agents in Bombay for about 18 months.

their savings principally in money-lending and banking, though some of them invest them in mill-shares and house property and a few sink their capital in ginning and pressing factories. Other classes, the corn dealers, cloth-merchants, shop-keepers, opium-brokers and cotton-brokers utilise their savings in their own business or invest them in house and landed property. The Jain and the Bhattia care little for Government securities or the savings-bank. When they do not merely hoard their savings, which is not an uncommon practice, they show a predilection for mill-shares and bank-shares or purchase house property. The Banias of Cutch sink their savings in business only, while the Khojas follow this practice but purchase also the shares of joint stock companies and Municipal, Port Trust and City Improvement Trust bonds. The poorer classes invest their savings usually in the purchase of gold and silver ornaments, and the middle classes likewise purchase ornaments and also invest their money in savings banks.

The following table shows the number of tax-payers by classes of income in Bombay in 1905-06 :—

CLASS OF INCOME.	NUMBER OF ASSESSEES.		
	Salaries, Pensions, etc.	Profits of Joint Stock Companies.	Other sources of income.
I. Rs. 1,000 but less than Rs. 1,250... ...	3,638	7	3,237
II. Rs. 1,250 ,, ,, Rs. 1,500... ...	678	3	1,047
III. Rs. 1,500 ,, ,, Rs. 1,750... ...	579	2	899
IV. Rs. 1,750 ,, ,, Rs. 2,000... ...	929	3	783
Total of Classes I to IV ...	5,824	15	6,326
V. Rs. 2,000 but less than Rs. 2,500	667	7	956
VI. Rs. 2,500 ,, ,, Rs. 5,000	1,190	26	1,546
VII. Rs. 5,000 ,, ,, Rs. 10,000	384	46	844
VIII. Rs. 10,000 ,, ,, Rs. 20,000	104	41	417
IX. Rs. 20,000 ,, ,, Rs. 30,000	17	30	144
X. Rs. 30,000 ,, ,, Rs. 40,000	3	11	72
XI. Rs. 40,000 ,, ,, Rs. 50,000	...	12	23
XII. Rs. 50,000 ,, ,, Rs. 1,00,000	...	21	49
XIII. Rs. 1,00,000 and over	...	35	39
Total of Classes V to XIII ...	2,365	229	4,090

Of persons whose annual income is between Rs. 20,000 and Rs. 30,000, 72 are Hindus, who are chiefly agents, brokers, property-owners and cloth-merchants, 20 are European barristers, merchants and agents, 23 are Parsi merchants and 29 are Khoja, Memon and Bohra property-owners and general merchants. In the same way out of those in class X of the above table, 36 are Hindus, 15 are Musalmans, 11 are Parsis and 10 are Europeans. Of those in class XI 9 are Parsis, 8 are Hindus, 4 are Europeans and 2 are Musalmans ; while of those in class XII 15 are Hindu agents and landlords, 13 are Parsi landlords, 12 are European merchants and 9 are Muhammadan general merchants. The European bulks most largely in class XIII of the above table under the head of merchant, barrister and solicitor, and the remainder of the 39 persons in the last column of the table comprise 7 Hindu millowners, 6 Parsi merchants and brokers and 4 Musalmans. A statement showing the sources of income of those who pay the income-tax is given in Appendix I to this chapter.

The business in Government Paper[1] and all other Trustees' authorized securities[2] is carried on under the rules of the Bombay Stock Exchange. Bombay is the largest rupee paper market in India. It has always been larger than that of London. Between the years 1880 and 1898 there was a large arbitrage business in rupee paper between London and India, and transactions reached very large dimensions. Between 1880 and 1890 most of the arbitrage business was in 4½ per cent. rupee paper. The issue of 4½ per cent. rupee paper amounted to 15 crores between the years 1879 and 1882. The first issue was at 95 which within 3 years rose to 115. The extraordinary rise was partly due to the operations of a French Syndicate cornering it, partly to the fall in exchange, and partly to specula-

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[1] This information, as also the article on exchange, was supplied by Mr. Shapurji B. Broacha.

[2] A statement showing the approximate number of holders of Government, Municipal and Port Trust securities is given at the end of the chapter. See page 335.

tion. The price of 4 per cent. paper in India during those years remained about 6 or 7 per cent. below 4½ per cent. paper.

After the repayment of the 4½ per cent. paper in 1894, the arbitrage business between London and Bombay continued in 4 per cent. paper which between 1891 and 1895 fluctuated between 108½ and 101½. The fall was owing to the conversion of 4 per cent. paper into 3½ per cent. But owing to the great cheapness of money both in England and in India, to the fluctuations in exchange mostly downwards, and to London's predilection for rupee paper due to its day to day payment of interest, there was a large arbitrage business when in 1896 the 3½ per cent. paper rose to its highest point, 111½. The arbitrage business remained in full swing until the end of 1898 when the exchange became stable at 1*s.* 4*d.* per rupee. Rupee paper thereafter showed a downward tendency until the South African War and the famine precipitated it to 91 in 1899, the lowest rate it ever reached during the last quarter of a century.

Since the stability of exchange has been established, two phenomena have been observed. The rate of paper has only once stepped over par and London has been remitting paper to India every year on balance. About 12 or 13 years ago there were 27 crores of rupee paper on the London books, and to-day there are only 14½. India has absorbed in the last 12 years not only 12½ crores of rupee paper held in London, but has absorbed all the rupee paper loans issued every year during the last 10 years, besides the enormous Municipal, Improvement Trust and Port Trust Loans which are now issued every year in increasing amounts throughout the country. The large absorption of authorised securities may be ascribed to the increased savings of the people, or to more confidence in the securities. The pause and the retrogression in the English investment may be ascribed to the dearer money and a higher rate of interest obtaining in London after the South African War, and to the more tempting investments at home and in foreign countries, particularly in the Argentine. The rate of rupee paper under par arises from the issue of new rupee

loans every year and other authorized securities. The rupee paper to-day is at the lowest rate known during the last quarter of a century except during one year of the South African War and unless there is a cessation of new rupee loans every year, it may fall still lower.

The following are the quotations of different kinds of Bonds :—

Bonds.	1881		1891		1906		1909
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	
French Municipal Bonds	201	191	224	215	235	232	236
5 per cent. Municipal Bonds, Tansa	114	118	113½	106	120½	117	112
4 per cent. Municipal Bonds (long dated).	...	...	...	...	104	101	98
4 per cent. Port Trust Guaranteed Bonds.	...	...	...	...	105½	104	101
4 per cent. Port Trust Unguaranteed Bonds (short dated).	...	...	104½	99¼	103	101	97¼
4 per cent. Port Trust Unguaranteed Bonds (New Issue).	...	...	...	...	105	103	98¼
4 per cent. City Improvement Trust Bonds.	...	...	...	...	104	102	97

The rates of rupee paper and the bonds depend on supply and demand for securities. In years when joint stock companies give better returns and when there is more speculation in them, there is a smaller demand for authorized securities. This has been the case for the last 5 years, and consequently lower rates are ruling at present. Mill shares were at their lowest point after the failure of Keshavji Naik in 1879-1880 and at their highest in 1906 owing to the great prosperity of the mill industry.

Exchange.

Between 1885-86 and 1897-98 there was acute speculation in exchange and in gold, the dealers hedging their gold purchases by the sale of exchange until the gold was sold and went into consumption. They maintained their position by daily purchases of exchange to the extent of the gold which they sold; and what was at first merely a protective operation degenerated often into pure gambling. The mints in India were closed in the middle of

1893, but gambling in exchange continued to flourish. In May, 1894, exchange reached its lowest point, namely, 12 pence a rupee; but since 1898 it has had a steady course at the parity of one shilling and 4 pence a rupee.

The exchange business in Bombay is carried on through the medium of banks, or in other words the banks finance the foreign trade of the country. When a merchant wishes to export goods, he sells his bills, shipping and other documents proving ownership of the goods to banks, which lend him money at the exchange rate of the day against the amount he has drawn upon the country to which he exports the goods. The bills sold to the banks in this way are of two classes, known as D/A or documents to be delivered on acceptance, and D/P or documents to be delivered on payment. When the bills are drawn at three or six months' sight on bankers of undoubted credit such as the Rothschilds and Barings, they are D/A which signifies that the documents must be handed over to them before the due date on their accepting the responsibility of payment by the other side. D/P signifies that the persons drawn upon are those to whom the bank will not hand over the goods on credit. For purpose of export the banks are the buyers of bills and the merchants are sellers of bills on the country importing their goods.

This business is carried on by brokers, both European and Native, who act as intermediaries between the banks and the public. Up to about six years ago the European brokers had no association or code of rules; but a Brokers' Association has now been formed, the sanction of which is required before the banks and merchants will recognize any new-comer in the field of exchange. The native brokers are certified for recognition by the Bombay Native Stock Exchange. Up to 1893 brokerage was $\frac{1}{8}$ of 1 per cent., but has been reduced since that year to $\frac{1}{16}$ of 1 per cent., the reason alleged being that prior to 1898 fluctuations in exchange were so constant that $\frac{1}{8}$ of 1 per cent. counted for very little, but that on the rate of exchange becoming fixed at one shilling and 4 pence the old rate of brokerage proved an excessive burden on the banks and mercantile public.

Speculation.[1]

In 1892 the late Sir Charles Farran thus described speculation in produce in Bombay City in his judgment in the case of J. H. Tod *vs.* Lakhamdas (Indian Law Reports, Bombay Series, XVI) :— "It appears to be the practice in Bombay to enter largely into contracts for the purchase and sale of produce still ungrown for future delivery. The vicissitudes of the market frequently render re-sales advisable, and a highly speculative mode of business is thus engendered. The expected produce is sold and resold over and over again. Sanguine minds engage in these transactions hoping for profit and trusting to their own forecasts as to the probable future of the market." This form of speculation has existed for more than fifty years and is still a feature of commercial life in the city. It is known as *Satto*, meaning a bargain in the first instance, but now endowed with the secondary significance of a speculative time-bargain. The business consists in the making of contracts for the sale or purchase of any commodity or produce or manufactured article or stocks and shares at a specified rate deliverable at a specified future time, the seller or buyer, as the case may be, trusting to his own calculation or forecast of the market rate on such specified date. The transaction is as a rule not followed by the actual delivery of goods, so that the business done is often entirely disproportionate to the actual quantity of goods available in the market on the due date, and the transaction degenerates into simple gambling on the differences in rates. On the other hand actual delivery and acceptance do take place, wherever the parties are desirous of bringing the contract to its logical conclusion ; and in many cases the persons engaging in such transactions enter into duly signed and stamped agreements, without which no action can subsequently be maintained in the law courts.

The mercantile and moneyed classes in the city perform an enormous amount of speculative business on behalf of up-country constituents, resident in all parts of India, acting in fact as commission-agents for the latter. Bona-fide business of this nature is performed

[1] This article is based upon notes supplied by Mr. R.K. Dadachanji.

in Government promissory-notes by private merchants and brokers, in the shares of joint-stock companies by the same classes, in cotton, in seeds, such as linseed, rapeseed, castor-seed, poppy-seed, cotton-seed, *til* and gingelly, in wheat, in Rangoon rice, in Calcutta-made gunny-bags, and in gold and silver.[1] A certain amount of speculation in opium also takes place. The *vaidah* or delivery-dates on which the various classes of cotton and seeds are deliverable under these forward-contracts, are shown in the subjoined table :—

Commodity.	Delivery-date in Hindu Calendar.	Delivery-date according to English Calendar.
Bengal Cotton...	... ...	31st January.
Broach Cotton...	... ...	15th to 25th March.
Linseed and Poppy seed ...	Maghshir Sud 15th ...	31st December.
	Vaishak Sud 15th ...	31st May.
	Bhadrava Sud 15th ...	30th September.
Rapeseed ...	Vaishak Sud 15th ...	31st May.
	Bhadrava Sud 15th ...	30th September.
Cotton Seeds ...	Posh Sud 15th ...	None.
	Phalgun Sud 15th ...	,,
	Vaishak Sud 15th ...	,,
Wheat ...	... ...	31st May.

As stated above, a very large proportion of the speculative business done in Bombay is entered into by local commission-agents on behalf of up-country constituents. All but a small fraction of this business would be rendered impossible if the provisions of the English law in such matters were strictly followed, *vis* :—that an agent must keep his contracts with different constituents absolutely distinct from one another. But in Bombay a mercantile usage of long standing, recognized by the law courts, permits a commission-agent to amalgamate his contracts and on the due dates to offer to his several constituents any contract whatever in place of those originally entered into, provided always that the rates of the substituted contract are the same as those of the original agreement. The up-country constituents in no way suffer from this practice. They obtain what they require on the due date but from a new party ; and if any one of these substituted

[1] Speculation takes place at Wadi Bandar and Paidhoni, in the case of silver in the Chandi Bazaar (Sheikh Memon Street), and in the case of stocks and shares in Dalal street, Fort.

parties fails to fulfil his contract or is insolvent, the loss falls upon the commission-agent. Another practice, which enables speculation to proceed without reference to the quantity of goods actually available, is the making of forward contracts of sale by the endorsement and tendering to purchasers of delivery-orders issued by persons other than the person who contracts to sell. These orders pass through many hands before they reach the parties who are prepared to take delivery of the goods specified in the orders. The intermediate parties stand thus in a definite relation to one another. Each of them is a purchaser from the party who tenders him the order and is a seller to the party to whom he in turn endorses it. His seller having performed the sale-contract with him and he in his turn having performed his contract with his vendee, all that remains for him to do is to adjust the differences payable by or to him with both the seller and the vendee. In this way any number of parties can perform a series of contracts in respect of one set of goods. A check upon the free transfer of delivery-orders from hand to hand in the case of forward-contracts has been devised, and consists in the insertion of a provision binding the buyer alone to take delivery. But the provision is unpopular, as favouring the seller at the expense of the buyer. The rate of commission charged by agents for speculative business in gold and silver varies from one to 4 annas per cent., in cotton-seeds and wheat from 4 to 12 annas or one rupee per cent. on the value of the goods sold or purchased.

Gambling in differences in the Marwadi bazaar in Bombay takes the form of what are known as *teji-mundi* contracts, that is to say nominal contracts for the sale or purchase of specified goods at specified future dates. These really amount to wagers respecting the market prices that may rule on those dates and may be divided into three classes, namely, (*a*) *Teji* contracts or nominal contracts under which the decision of the wager rests upon the rise of the market at the specified future date, (*b*) *Mundi* contracts under which the decision of the wager rests upon the fall of the market at the specified future date, and (*c*) *Teji-mundi* contracts under which

the giver of the stake and proposer of the bet has the option of declaring a certain number of days before the specified date whether he will nominally buy from or sell to the other party, in the former case the *Teji* or rise of the market and in the latter the *mundi* or fall of the market determining the wager. The relation between the two parties to such contracts is thus not that of buyer and seller but of proposer and acceptor of a bet. The stake is deposited either in cash or in the form of a *hundi* falling due on the date specified for performance of the nominal contract, that is to say the date on which the ruling market price is to be taken as determining who has won the bet. Another form of gambling in differences, which some merchants regard as a genuine form of business, consists of what are called *Gali-Sodas*, or forward contracts giving the purchaser the option of declaring five or more days before the due date whether he will take delivery or only pay differences at specified rates. Gambling in opium is known as *Ank-Satta*, in which the wager is determined by the receipt of the evening telegram from Calcutta. In the case of speculation in promissory notes and shares, the agreements between the parties are usually in writing and are duly stamped.[1]

Money lenders.[2]

The majority of people in Bombay live upon borrowed money. Money-lenders belong to two classes, profes-

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[1] Some years ago rain-gambling during the monsoon-months was very prevalent in Bombay. The *locus operandi* was Paidhoni, where a house would be rented at a high price for the four months of the monsoon by twenty or more native capitalists. This form of gambling was styled *Barsat ka Satta*, and was sub-divided into two forms known as *Calcutta mori* and *Lakdi Satta*. In the former case wagers were laid as to whether the rain would filter in a certain fixed time through a specially-prepared box filled with sand, the bankers settling the rates or prices of the wager by the appearance and direction of the clouds. In the second case the winning or losing of the wager depended upon whether the rainfall within a certain period was sufficient to fill the gutter of a roof and overflow. The name *Lakdi Satta* was due to the fact that a piece of wood was fixed to the spout to help the accumulation of water. The time during which this form of gambling was chiefly resorted to was 6 to 9 a. m, 9 a. m. to 12 noon, and 6 p.m. to 12 midnight, and the rates varied according to the signs of rain in the heavens and the amount of time left before the period within which bets could be booked, expired. The practice was put down by Government and is now no longer followed.

[2] This article was contributed by Mr. N. W. Kemp, Chief Judge of the Small Causes Court.

sional money-lenders and casual money-lenders. The latter are always willing to accommodate their friends but are not blind to their own interests or to the fact that they may never see their money again. They therefore charge interest at from 6 per cent. to 9 per cent. As a rule they are honest, but through lack of knowledge both of human nature and of law they frequently fail to obtain a receipt from the borrower and have to prove their case, if it comes into court, almost wholly by oral evidence. The ordinary mercantile rate of interest in Bombay is 9 per cent. No interest is allowed to run on a decree of the Small Causes Court; the interest allowed by the High Court on judgment is 6 per cent. and under the Negotiable Instruments Act interest at 6 per cent. is allowed on a negotiable instrument which is silent as to the rate of interest.

The professional money-lender may be either one who subsists wholly on money-lending or one who combines it with some other profession or trade. At the head of the first class stands the Marwadi; at the head of the second the *danawala* or grain-seller who, in addition to selling indifferent grain at a very heavy price, lends money to his customers at a high rate of interest. There are also a certain number of Parsis and Deccan Hindus who, having themselves been at one time victims of the Marwadi, have now adopted his line of business on their own account. The Marwadi's chief weapon is the blank penalty note. In addition to the regular promissory note promising to repay about three or four or sometimes even five times the amount advanced with interest at 75 per cent. per annum on the inflated loan, the borrower is induced to put his signature, with a statement that a certain sum has been borrowed, across a receipt stamp at the foot of a paper the upper part of which is blank, on the understanding that it will be returned when the amount of the original note is paid off. Sometimes it is so returned but at other times if the debtor goes to the Insolvency Court or otherwise defrauds the Marwadi the latter fills in the blank note if necessary with a date subsequent to the Insolvency and files a suit on it. This is called a penalty note. There is thus a constant

struggle in progress between the borrower and lender in which the former tries to avoid payment of the debt and the latter so to cast the meshes around his victim that he cannot escape. Marwadis are commonly supposed to keep three sets of account books and those which are produced in Court to support the claim are of small corroborative value. His genuine books of account never come into Court. Generally everybody in the Marwadi's *pedhi* (business establishment) is inserted as a partner in the pleadings when a suit is filed. The convenience of this is obvious, for it enables any one of the persons mentioned to prove the claim. It is no uncommon thing to discover even the name of the servant who cooks the food inserted as a partner. The Marwadi's customers are drawn from all classes and range from the expectant heir down to the mill-hand.

The *danawala* or grain-merchant's opportunity lies in the fact that in a crowded city like Bombay people have not the space in their abodes to stock grain in large quantities. They therefore have an account with the *danawala*, who also lends them money. His accounts are never balanced ; so that he can insert or tamper with entries in any way he likes. His chief customers are mill-hands and as his dealings with them are on credit and the risk great, he considers he is entitled to charge to the account of one customer the loss sustained in consequence of the disappearance without payment of another. To him all mill-hands are alike. *Khatarawalas* or cart-drivers are also good customers of his, and their belongings are mostly mortgaged with him or the Marwadi.

As regards the loan itself, the professional money-lender advances money on the pledge of ornaments or other moveable property, or of immoveable property, or simply on personal security. The interest varies according to the nature of the security. When the money is lent on the pledge of gold, if the amount is small, interest is charged at the rate of from 2 to 3 pies in the rupee per mensem. If the amount is large, interest at from 10 to 14 annas per cent. per mensem

is charged. If the security be silver, interest at 3 pies per rupee per mensem is taken if the amount lent be small and from Re. 1 to Re. 1/8 per cent. per mensem if the amount be large. If pearls, diamonds or other precious stones are pledged interest runs from Re. 1/8 to Rs. 2 per cent. per annum. In these cases the bonds passed are for the actual amounts advanced. In the case of gold and silver ornaments taken in pledge the value of the articles exceeds the amount advanced by the amount of 2 or 3 years' interest. When precious stones are pledged the margin is double the amount advanced, to allow for fluctuations in the value of the article. When money is advanced on the mortgage of immoveable property the mortgagor or the broker, if there is one, has to satisfy the mortgagee from the Municipal, the Collector's, and the Fazendari Bills as to the value of the property. The interest charged on the security of immoveable property is from 8 annas to one rupee per cent. per mensem and the lender will only advance to the extent of half the value of the property. If money is advanced on personal security only, interest is charged at from $\frac{1}{4}$ of an anna in the rupee to 2 annas in the rupee per mensem or, in other words, from $18\frac{3}{4}$ to 150 per cent. per annum according to the amount lent and the solvency or otherwise of the party. In these cases the bond passed does not represent the actual amount advanced. The amount of the bond is always for an amount representing the amount advanced plus interest for the period at the end of which the amount is repayble. Where the notes are payable on demand there is an understanding between the parties that the loan will be paid off within a certain period and the amount then entered in the notes includes the interest for that period. Sometimes the amount of the bond is 2, 3 or even 5 times the amount actually advanced. In addition to the bond passed for the advance a penalty bond is frequently taken from the borrower. This penalty bond has already been referred to. It is taken in cases when the lender has reason to believe he will experience great difficulty in recovering

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the amount of the original bond. A later date is invariably put in the penalty bond. In theory the penalty bond is supposed to be returned when the advance is paid off; but it also protects the lender against the borrower's fraud or insolvency. Besides, decrees of the Small Cause Courts do not carry interest, and if a decree is not satisfied for years the lender becomes a loser unless he has recourse to the penalty bond. In law a penalty bond taken in addition to a genuine bond for an advance is void as being without consideration. Many are the efforts, therefore, made to convince the Court that the two bonds represent different and separate transactions. These penalty bonds are most frequently taken from Hindus, as under the Hindu law of *damdupat* at the time of filing the suit the interest sued for may not exceed the principal sued upon. Another type of note is the blank note. This bears simply the signature or mark of the borrower on a stamped paper or a paper bearing a one-anna stamp. The class of people from whom these bonds are generally taken are young men, who have fallen into dissipation, who are not particular as to the terms upon which the money is advanced, and who have, as a rule, no intention of repaying. It is generally people of this class who rush into the Insolvency Court after running up heavy debts in various quarters. They never get out of the clutches of the money-lenders and have no idea of the extent of their indebtedness and are hence unable to enter all their liabilities in the schedule. Even if they obtain their discharge in insolvency the holders of the blank or penalty notes have only to fill in the bond with a date subsequent to the insolvency and thus retain their hold over their debtors. If a borrower is unable to pay the amount within the stipulated period he passes a fresh bond for the amount plus interest due on the old one.

Joint Stock Companies.

The registration of joint stock companies was first provided for by Act XLIII of 1850, which laid down that the Supreme Courts of Calcutta, Bombay and Madras might receive petitions setting forth (*a*) the names and additions of the partners of the

company requiring registration, (*b*) the style under which the company was to carry on its business, (*c*) the names of the principal places within the Presidencies where business was to be carried on, (*d*) the amount of capital stock, the nature of capital stock, the manner in which it was invested and, if separate provision were made for working capital, the amount thereof, etc., and (*e*) the number of shares into which the capital stock had been or was to be divided. On receipt of such a petition the Supreme Courts could order the registration of the company. In 1857 an Amending Act (No. XIX of 1857) was passed which enabled members of joint stock companies and such associations to limit their liabilities for the debts and engagements thereof and provided for the appointment of Registrars and Assistant Registrars. This was followed by Act VII of 1860 which provided for the formation of joint stock banking companies on the limited liability principle, and by Act X of 1866 which consolidated and amended the law relating to the incorporation, regulation and winding-up of trading companies and other associations. These matters are now regulated by Act VI of 1882. Since 1876 the number of companies in Bombay and their capital have steadily increased, in consequence of the natural expansion of the city and its trade interests.[1]

The following statement shows the number of registered companies in Bombay and their capital throughout the four decades ending 1905-06 and in 1908-09 :—

Year.	Number of Companies.	Nominal Capital in lakhs of rupees.	Paid-up Capital in lakhs of rupees.	Average number of Companies registered annually.
1875-76 ...	75	859	536	...
1885-86 ...	147	1,028	802	14
1895-96 ...	191	1,322	880	14
1905-06 ...	241	1,889	1,303	14
1908-09 ...	308	2,949	1,864	...

[1] For an account of fraudulent constitution of native firms in 1867 see Report of the Bombay Chamber of Commerce of 1866-67.

The income from registration rose from Rs. 7,768 in 1885-86 to Rs. 10,580 in 1895-96 and decreased slightly to Rs. 10,271 in 1905-06. In 1908-09 the income was Rs. 14,568. The number of documents registered under the Act in Bombay City in 1908-09 was 275 balance-sheets, 275 summaries, 69 notices of situation of office, 59 special resolutions, 39 memoranda and articles of association, 38 miscellaneous and 4 copies of orders of Court.

For the registration of Literary, Scientific and Charitable Societies, Act XXI of 1860 was passed. Few societies of this nature were registered until 1905-06. Between 1905-06 and 1908-09 the Bombay Hospitals Nursing Association, the Young Men's and Young Women's Christian Associations, the Society for the Prevention of Cruelty to Animals, the Bombay Gauraksha Mandali (Cow-protection Society), Sewa Sadan (or Sisters of India Society), Mumbai Grantha Samgrahalya and various sectarian charitable societies such as the Bhattia Mitra Mandali, the Sri Cutchi Lohana Shubhechhak Mandali, etc., were registered. The returns submitted by these societies are filed free of charge, but a fee of Rs. 50 is payable at the time of registration. The number of such societies registered under Act XXI of 1860 was—in 1865-66, 2; in 1875-76, 5; in 1885-86, 8; in 1895-96, 12; in 1905-06, 29; and in 1908-09, 4.

Until the year 1866 the Registrar of Joint Stock Companies was the Prothonotary or Registrar of the High Court, Original Side; but in that year the work was handed over to the Registrar-General of Assurances and the Deputy Registrar-General was appointed Assistant Registrar of Joint Stock Companies and was authorized to perform the duties of the Registrar in the absence of the latter. In the same year the Registrar of Bombay was also appointed Assistant Registrar, and in 1868 he was appointed Registrar of Joint Stock Companies *vice* the Registrar-General. The Sub-Registrar of Bombay is ex-officio Registrar of Joint Stock Companies for the Presidency.

The following table shows the details of the registered Joint Stock Companies existing in Bombay at the close of 1908-09 :—

Number of Companies.	Classification of Companies.	Nominal Capital.	Paid-up Capital.
		Rs.	Rs.
	I—*Banking, Loan and Insurance**	**4,84,05,000**	**1,38,51,703**
9	(*a*) Banking and Loan ...	3,36,95,000	1,26,77,693
9	(*b*) Insurance	1,47,10,500	11,74,010
	II—*Trading.*	**7,01,84,000**	**4,59,30.746**
4	(*a*) Navigation	1,27,50,000	78,72,338
9	(*b*) Railways and Tramways.	2,46,00,000	1,87,76,198
2	(*c*) Co-operative Associations.	3,50,000	91,940
10	(*e*) Printing, Publishing and Stationery.	17,90,000	4,47,910
72	(*f*) Others	3,06,94,000	1,87,42,360
	III—*Mills and Presses.*	**13,63,04,625**	**10,77.15.596**
100	(*a*) Cotton Mills	11,43,61,200	9,14,69,011
6	(*c*) Mills for Wool, Silk, Hemp, &c.	47,25,000	46,37,000
52	(*d*) Cotton and Jute Screws and Presses.	11,54,84,425	95,97,230
3	(*g*) Flour Mills...	14,70,000	10,06,200
1	(*h*) Saw and Timber Mills....	8,00,000	5,00,000
7	(*i*) Other Mills and Presses..	34,00,000	5,06,155
1	IV—*Tea and other planting companies.*	**50,000**	**38,950**
	V—*Mining and Quarrying.*	**2,56 75,000**	**76,25,380**
1	(*b*) Coal	3,00,000	2,03,240
6	(*c*) Others	2,53,75,000	74,,22,140
8	VI—*Land and Building*	**1,22,80 000**	**1,01 81,635**
2	VIII—*Ice Manufacture*	**9,77,500**	**7,06,075**
3	IX—*Sugar Manufacture*	**9,00,000**	**2,91.535**
3	X—*Others*	**1,00.000**	**96,000**
308	Total all Companies ...	29,48,76,625	18,64,37,620

The number of Companies limited by guarantee in Bombay at the close of 1908-09 was 8, of which 6 were insurance companies.

Co-operative Credit Societies.

*Since the passing of India Act X of 1904 co-operative credit societies have been established in Bombay City, of which two are working fairly well. The first, which was registered in November 1905, is known as the Bombay Pioneer Urban Co-operative Credit Society, Limited, and has offices in Dalal Street, Fort. Its balance is invested in the National Bank ; but the funds at its disposal are small, and there seems a reasonable possibility of the Society being shortly dissolved[1]. In 1906 the Bombay Urban and the Shamrao Vithal Co-operative Credit Societies were formed.

[1] Its registration was cancelled in 1909.

Their respective funds aggregate Rs. 14,000 and Rs. 7,000. The former has lent money (Rs. 14,900) to eleven rural co-operative credit societies and made a profit of Rs. 700 in 1907-08. The latter lends money to its members only, who are chiefly Sarasvat Brahmans, and made a profit of Rs. 250 in 1907-08. It has two branches, one at Karwar and the other at Honawar in Kanara District. In 1907 the Bombay Hindu Co-operative Credit Society was registered, but has up to the present made very little progress. The funds at its disposal amount to about Rs. 750. Attempts are now (1908) being made by certain persons to found a species of co-operative society of a somewhat different character among the mill-operatives of Bombay.

Insurance.

The earliest notice of an Insurance company is in Milburn's Oriental Commerce (1813)[1] to the effect that "There is only one insurance office at Bombay, the Bombay Insurance Society. The Proprietary is divided into 100 shares of 20,000 Rupees each forming a capital of 20 lacs of rupees ; one half in company's paper and the other half in personal bonds ; but there are many private underwriters in Bombay, who insure separately on ships."

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[1] Milburn's Oriental Commerce Vol. I, page 236 (1813).

In speaking of the Insurance Office he says "It appears from a document framed in the Insurance Office, that the rate of premium from Bombay to China, and from China to Bombay, from 1798 to 1805, fluctuated between 12, 10, 9, and 8 per cent., but during the period from 1805 to 1808, inclusive, whilst under the command of Vice-Admiral Sir Edward Pellew, it stood at 8 per cent., if sailing with convoy, and at 5 per cent. warranted with convoy, and that the amount of property insured at Bombay, from the 1st May, 1806, to 31st October, 1808, amounted to ... ... Rs. 5,37,00,000

	Rs.
The premium paid by the trade on that sum amounted to	35,61,000
The losses by captures during the same period amounted to	4,93,000
The losses by sea risks during the same period amounted to	5,52,000
The profits to the under-writers during the same period amounted to	25,15,000

The losses by captures were under one per cent. on the principal insured, and were exceeded by those arising from sea risk ; whilst the former occurred in consequence of a departure from the regular system of convoy laid down by Sir Edward Pellew, and by which the commerce of the western division of India has been so extensively benefited."

During the first half of the 19th century English companies established agencies in Bombay and a few local companies were formed, so that by 1851 there were 25 companies of this class as shown below :—

Name.	Head-quarters.	Capital.	Remarks.
1. Bombay Insurance Society	Bombay ...	Rs. 15,00,000	Agencies in London, Madras, Canton, Manilla, & Colombo.
2. Bombay Insurance Company	Do. ...	Rs. 12,00,000	Established in 1822; Agents in London and Canton.
3. Native Insurance Company	Do. ...		Established in 1831.
4. Fifth Bombay Laudable Society[1]...	Do. ...		Established in 1849 and closed in 1853.
5. Universal Assurance Society for lives etc. ...	London ...	£ 500,000	Established in 1834.
6. Australasian Colonial and General Life Insurance and Annuity Company	Do. ...	£ 200,000	
7. Alliance British and Foreign Fire Assurance Company... ...	Do. ...	£5,000,000	Established in 1824.
8. Imperial Fire Insurance Company	Do. ...	£1,500,000	For insurance of houses and other buildings, goods, wares and merchandise.
9. Alliance Insurance Company	Calcutta ...		Established in 1833.
10. Royal Insurance Company	Liverpool ...	£2,000,000	
11. Great Briton Mutual Life Assurance Society and India and Life Assurance Company...	London ...		
12. Bombay Royal Exchange Insurance Company	Bombay ...		Agents in Calcutta, in China and in Liverpool.
13. Imperial Marine Insurance Company... ...	Do. ..		Agents in Calcutta, in China and in Liverpool.

[1] The first Laudable Society commenced in 1829 and terminated in 1833—value of a share Rs. 7,460; the second ended in 1838, value of a share Rs. 7,476; the third ended in 1843, value of a share Rs. 9,768; the fourth ended in 1848, value of a share Rs. 9,768; the fifth, sixth and seventh ended in 1853, 1858, and 1863 respectively.

Name.	Head-quarters.	Capital.	Remarks.
14. Western India Insurance Society	Bombay ...		Agents in Calcutta, in China and in Liverpool.
15. Eastern Insurance Company	Do. ...		Agents in Calcutta, in China and in Madras.
16. Akbar Insurance Company	Do. ...		
17. Oriental Insurance Company	Do. ...		Agents in Calcutta, in China and in Liverpool.
18. London Assurance Corporation	London ...		
19. Bengal Insurance Society	Calcutta ...	Rs. 9,60,000	
20. Amicable Insurance Office	Do. ...		
21. Equitable Insurance Society	Do. ...		
22. Alliance Office	Do. ...		Established in 1833.
23. Origin Insurance Company	Do. ..		
24. Canton Insurance Office	Canton ...		
25. Union Insurance Society	Do. ...		

Excepting No. 3 all these companies had as their Secretaries or Agents the English firms of Bombay. Messrs. Ewart, Lyon and Company were Secretaries for No. 12, 13, 14, and 17 and Agents for 18. Messrs. Grey and Co. were Secretaries for 15, and 16 and Agents for 11 and 23. Messrs. Remington and Co. were Agents for four companies 7, 19, 20 and 24. Messrs. Ritchie Stewart for 6, 9, and 22 and Messrs. Leckie and Co. for 5 and 21.

Insurance business at this date appears to have been very profitable ; and although, during the decade ending 1861, 7 local companies and 6 agencies were obliged to wind up their business, yet their place was shortly afterwards taken by five new Fire and Marine companies[1] and

[1] The new companies formed were

(*a*) Bombay Merchants' Insurance Company with agencies at Calcutta, Hongkong, Singapur and London.

(*b*) Bombay China Insurance Company with agents at Calcutta, Canton, Singapur and London.

(*c*) Messrs. Forbes & Co.'s constituents Insurance Fund Agencies at Hongkong and in England.

(*d*) Victoria Insurance Society with agencies in Calcutta and China.

(*e*) China Merchants' Insurance Company.

by the establishment of agencies for 16 foreign and Indian Fire and Marine and 5 Life Insurance companies. The inducement to open new agencies of this nature consisted in the willingness of the public to pay high rates of premium for fire insurance, and the absence of any effort to force the companies to correlate their rates and profits.[1]

The following decade witnessed a further increase in the number of agencies, many of which were opened by companies in Lancashire, Scotland, Australia and China, while the pre-existing agencies of London and local firms were extended. Consequently by 1871 the total number of insurance companies in Bombay had risen to 72 as shown in the following table :—

	Local.	Agencies.	Total.
Fire	1	15	16
Life	...	9	9
Marine	8	39	47
	9	63	72

In 1881 Bombay contained 107 insurance companies, of which 38 dealt with fire, 22 with life, and 47 with marine insurance. But the local marine insurance companies had disappeared in favour of agencies opened by European companies, while a certain increase was visible in purely local life insurance companies. During the last 25 years the total number of insurance companies has varied between 110 and 135. At the present date (1909) Bombay contains 34 fire insurance companies, 33 life insurance companies, 55 marine insurance companies. Companies whose head offices are in Bombay number 7; and most of them transact business in life insurance. The local life insurance companies are : *The Indian Guarantee and Securityship Association* established in 1872 with a nominal capital of of Rs. 5,00,000: *The Oriental Government Security Life Assurance Company, Ltd.*, which started business in 1874: *The Mutual Provident and Guarantee Society, Ltd.*, established in 1885 : *The Empire of India Life Assurance*

[1] See Report of Bombay Chamber of Commerce, 1868-69.

Company, Ltd., which commenced to do business in 1897 with an authorized capital of one crore.

Prices. The supply of provisions was one of the greatest difficulties with which Bombay in early days had to deal. The Portuguese hindered the grain supply and prohibited all provisions being brought from Salsette, in consequence of which the President and Council at Surat had to write to Bombay in 1676 to send yearly vessels down to Mangalore and Barcelor to load rice there for the supply of the island[1]. They asked the Bombay Council not to be overhasty in buying the corn since the price might rise exceedingly upon them, and to procure it at the cheapest time in the year so that the Company might not lose thereby[2]. Rice, together with other provisions, used to be thus purchased by the Company and stored in their warehouse. The Warehouse Keeper by order of the Council delivered the quantity of rice ordered by them to the clerk of the market, who in his turn delivered it to the *Kacharas*, or licensed rice-sellers, for retail to the people at a rate which was fixed by the Council and reduced by them in years of scarcity to supply the necessities of the poor. In 1702 this rate was fixed at 34 Xeraphins per *muda*, that prevailing in the market being 38 Xeraphins per *muda*.[3]

The market-price of rice varied considerably from year to year, as the following record shows —

		per Muda.			per Muda.
1737...	at the rate of	Rs. 23	1767...	at the rate of	Rs. 20¼
1741...	do.	Rs. 13¼	1768...	do.	Rs. 15¾
1748...	do.	Rs. 29½	1769...	do.	Rs. 15½
1749...	do.	Rs. 25	1772...	do.	Rs. 16¾ ; Rs. 17¾
1750...	do.	Rs. 19½			
1758...	do.	Rs. 33-34			

The rates of wheat and gram similarly fluctuated during the middle of the eighteenth century, the price of the former varying from Rs. 24 per *khandi* in 1743 to Rs. 48 per *khandi* in 1754, and of the latter from Rs. 21 in 1728 to Rs. 11 in 1768. A statement will be found in the

[1] Surat to Bombay, 4th November 1676, Surat Fac. Out. L. B. 2 of 1675-76, 243-44. Forrest's Home Series I, 109-110.

[2] Surat to Bombay, 21st November 1676, Surat Fac. Out. L. B. 2 of 1675-76, 259 Forrest's Home Series I, 110-11. Sec. Out. L. B. 4 of 1677-1687, 39.

[3] Sec. Out. L. B. 7 of 1699-1702, 146.

Bombay Gazetteer materials, Part II, showing the rates at which the Moodys or Parsi agents of Government contracted to supply certain commodities.

In 1776 the dearness of all commodities at Surat as compared with prices in Bombay led to the investigation of the question by a committee, which eventually reported in 1779 that the high prices ruling in Surat were largely due to the predatory incursions of Maratha cavalry in that neighbourhood, that actually prices were not so high as had been supposed, and that none of the Company's servants were concerned in monopolising provisions.[1] Another committee was appointed in 1780 to enquire into the causes of the scarcity of grain in Bombay at that date, and to suggest measures for lowering the price thereof.[2] Government agreed with the Committee that it was very proper that the Company should always have a sufficient quantity of batty in their warehouse to keep down the price to a moderate rate and further observed as follows :— We have little doubt but a stock fully sufficient to ensure a cheap and plentiful market will from henceforth be produced from the Company's own share of grain in their several possessions adjacent to Bombay and that they will necessarily have a large quantity for sale, and we trust that a proper vigilance over the export from the islands and ports in the Konkan with other regulations recommended by the Committee and now adopted will effectually prevent such scarcity and enhanced price again happening as was experienced last season. Proper responsible people, if any such offer and can give good security for their discharging the business so as to answer the good purposes expected from it, will be appointed *Kacharas* and an exclusive right given them to supply the market with rice. For their encouragement they must be allowed the gratuity recommended by the Committee. It is resolved to issue a publication inviting those who can give security to our

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[1] Pub. Diary 77 of 1780, 333—334.

[2] Pub. Diary 77 of 1780, 550—552. For a statement of the prices of Moodys' stores in 1781 see Bombay Government Diary, 7th February 1781, Pub. Diary 78 of 1781, 44—45. Forrest's Home Series II, 264—265.

satisfaction to send in their names and terms. Public market places for grain, which are now wanting, must then be established in the most convenient situations in the different parts of the town and island.[1]

1800—1907. In 1802 the fall of rain having been very scanty, famine was imminent in the Bombay Presidency, and prompt measures were accordingly taken to alleviate the impending distress. A temporary grain department was formed in Bombay. Government prohibited the exportation of grain from Bombay and in order to encourage or afford greater facilities for the importation of grain and other necessaries of life, suspended the levy of the town duties. Government also authorized 200 bags of rice from their store being daily placed in the bazaar for sale at fixed prices under the directions of the Police Superintendent of Bombay. Rice was also imported from Mangalore and thrown into the market for sale ; and the Custom Master-General was authorized to purchase rice from individual importers in such quantities as might appear necessary without causing an inconvenient drain on the General Treasury. The famine of the year 1812 extended even further than that of 1802. But fortunately the scarcity continued only for a short time in Bombay and perhaps resulted from the eagerness of the merchants to send their grain to the famine-stricken districts in the hope of realizing large profits. The first indications of the distress were brought to notice by the Custom Master-General at Bombay, who, as on former occasions, suggested that the export of grain and other necessaries of life should for a time be prohibited. Government, however, did not think it expedient to take any measures that might tend to interfere with the ordinary course of trade. They thought it sufficient to warn the dealers, who might have hoarded their stock with a view to monopoly and large profits, that if they persevered in that course Government would be compelled to establish a control over their proceedings.[2]

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[1] Bombay Gazetteer, Vol. XXVI, Part II, p. 64.

[2] Report on Past Famines in the Bombay Presidency, 1868, pages 124—127.

In describing the state of the Bombay Market in 1813 Milburn observed as follows :—"The Island of Bombay scarcely produces any articles of consumption. It is supplied with food for its numerous inhabitants from various parts of India and every article is much dearer than at either of the other Presidencies. Considerable quantities of rice and other grains are annually imported. The prices are continually fluctuating from the uncertain state of market, which is under the superintendence of the Police."[1] He adds "Bombay produces most excellent onions. All other vegetables are scarce and dear. Firewood varies from 2 to 6 rupees per 1,000 billets according to the size. The fluctuations in the prices of food-stuffs and provisions were, for the reasons indicated above, continuous, and prices showed a tendency to increase steadily."

The state of the market between 1848 and 1858 may be seen from the following table[2] showing the average prices during the period :—

Articles.	1848-52.	1858.
Wheat per *phara* ... ... Rs.	13 to 21	17 to 25
Rice ,, ... ,,	22 ,, 24	30 ,, 32
Bhat ,, ... ,,	6 ,, 8	8 ,, 10
Bajri ,, ... ,,	12 ,, 16	17 ,, 21
Jowar ,, ... ,,	10-0-0	15-4-0
Gram ,, ... ,,	12 to 17	17 to 21
Peas ,, ... ,,	14-8-0	16-8-0
Tur ,, ... ,,	14 to 15	14 to 20
Math ,, ... ,,	13 ,, 14	15 ,, 17
Udid ,, ... ,,	14 ,, 16	20 ,, 22
Beef per lb. ... ... pice	12 ,, 24	14 ,, 32
Mutton per lb. ... ... ,,	12 ,, 17	12 ,, 18
Ghi per 28 lbs. ... ... Rs.	7-2-0	10-8-0
Sugar ,, ... ,,	4-2-0	6-4-0
,, ,, ... ,,	2-12-0	4-5-0
Cocoanut oil per 28 lbs ... ... ,,	2-5-0	4-3-0
Gingelly ,, ,, ... ,,	2-4-0	2-9-0
Firewood per *khandi* ... ... ,,	2-15-0	4-7-0
,, ,, ,, ... ,,	2-8-0	4-1-0

The above rise was severely felt by the poorer classes and was generally attributed to the pressure of taxes (municipal and general) that had been imposed in

[1] Milburn's Oriental Commerce, Vol. I, 1813, p. 272.

[2] Bombay Times, 22nd October, 1859.

preceding years, and also to a general combination of dealers in the bazaar, who, on the least apprehension of a scarcity, were wont to raise the rates immediately in a ratio far beyond the demands of the occasion and took advantage of the most trifling deficiency in the monsoon to enhance the prices of grain. In 1861 the War in America began, in consequence of which Great Britain had to depend for her cotton supply mainly on India. This so raised the price of cotton that during the five years that the war lasted Bombay profited to the extent of more than 75 millions sterling. Simultaneously there was further rise in the prices of grain, as will be seen from the following table and also from the table at the end of this chapter :—

Description of grain.	Prices before American War.	Rise in conjunction with the War.
	Rs.	Rs.
Rice	40	62
Bajri	26	40
Wheat	32	45
Gram...	24	34
Tur	40	60
Mung	28	40
Math	24	32
Udid	24	36
Val	20	40
Vatana	25	41
Jowar	17	29

The years 1893 and 1894 being marked by poor harvests in parts of India, a rise occurred in the prices of grain and specially wheat. In 1897 the demand for wheat for internal consumption quickened owing to continued bad harvests and prices rose rapidly and maintained a very high level, operating even as a check on exports. The price of wheat in Bombay rose to Rs. 7-15-1 in December 1897. In 1898-99 the crops were on the whole good, especially *jowar*, *bajri*, rice and wheat, and the quantity of wheat exported was the highest for five years. In 1897 petitions were received from the majority of members of the clerical establishments employed in Bombay City representing that the cost of living had increased to such an extent of

late years that the existing scale of pay no longer enabled them to subsist in comfort. The Bombay Government thereupon appointed a Committee to inquire into the matter. In order to ascertain the cost of living in the City the Committee first of all prepared from the monthly price lists published in the *Bombay Government Gazette* a statement [1] showing the average prices of certain food stuffs in Bombay City for each year between 1870 and 1907 and also made a careful examination of several regularly kept private accounts which enabled them to obtain as far as possible accurate prices of articles. The articles selected for comparison were rice, wheat, *tur*, dal, *ghi*, sweet oil, cocoanut oil, sugar, salt, and firewood, which were believed to be representative items in the cost of living of a native. On these the Committee reported as follows :—"The prices of all these excepting only sugar and salt, have risen largely of late years. There have of course been temporary fluctuations, both up and down, in the series of years since 1870, but the permanent result is a great advance in prices since the existing scale of salaries was fixed and prices have touched a higher point this year (1907) than ever before. The amount expended on sugar and salt is so small that the fall in the prices of these commodities does not afford much relief. We think it may safely be said that the cost of native food has advanced 20 per cent. in the last 30 years, and so far as we can see there is no prospect of any appreciable fall in prices in the near future. The general opinion is that, whatever may be the cause or causes, the level of prices has been permanently raised and that they will not drop again to the level of the seventies and eighties, even with successive good harvests." With regard to articles other than food stuffs the Committee observed as follows :—"We do not find that any relief has been given by fluctuations in the prices of clothes and other articles mentioned in the reference to us : the expenditure on them is very small compared with the recurring cost of food and house rent, their prices on the whole have not gone down, and any cheap-

[1] *Vide* Appendix III, at the end of the Chapter.

ening there may be of particular articles is, we fear, more than balanced by the improvement in the style of living during the last 30 years among all classes in the City, consequent on the development of trade and communications." The rise in house rent was also shown by the Committee as being undoubtedly the item of expenditure which pressed heaviest on the people.

Wages.

A reference in connection with the subject of wages on the records of the Bombay Government is contained in a letter addressed by the Court to the Bombay Council in 1717, in which the Court suggested that the Kolis of Bombay, who are described as being more faithful, ingenious and laborious than others, might be encouraged, when necessary, by advancing to them their pay of 4 Xeraphins a month. The Court further added [1] :—"We find you have made an advance in the case of other labourers. As to their grumbling because they have so small wages when they can earn half a Xeraphin a day, consider them a sort of slaves and then you have an answer why they should work cheaper for us than for others." In 1740, the Bombay Government ordered "that the Kolis' wages allowed by the Company be increased to a half rupee a month each man."[2] In 1767, it was found that the wages of labourers were very high, and as the price of labour had not been regulated for some years past, a Committee was appointed by the Bombay Government for the purpose. This Committee fixed the rate of labour at 12 pice a day or 63 reas for 9 hours for every able bodied labourer and less in proportion to the age and strength of others. This rate was approved by the Bombay Government in 1768. In 1772 labourers received 10 pice a day, smiths from 16 to 21½ pice, carpenters from 22 to 27 pice a day, while domestic servants earned according to their rank from Rs. 3 to Rs. 12 a month.

The condition of the labouring classes, so far as wages are concerned, is decidedly better than it used to be. Forty years ago the daily wages of a labourer,

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[1] Court to Bombay, 21st February 1717, para. 75, Comp. of Standing Orders, Vol. I of 1715-172:, 152.

[2] Revenue Diary, 22 of 1798, 2063.

working from 9 a.m. to 6-30 p.m., were on an average 4 annas. Ten or twelve years ago they varied from 5 to 6 annas, and at present they vary from 7 to 8 annas. Moreover if they work from 6 a.m. to 9 a.m., this period is considered as extra and is paid for at the rate of a quarter of the daily wages.[1] But the fact cannot be ignored that simultaneously with this rise in wages there has also been a similar rise in the prices of food-stuffs, fuel, &c., and in rents. The wages of *Nowghanis* varied, twelve or fifteen years ago, from 8 annas to 10 annas; but at present they earn from 12 annas to one rupee, the headman earning at times from Rs. 1-4 to Rs. 1-6 per day. Intelligent *Nowghanis* take petty contracts for carrying heavy loads and engage large gangs of *Bigaris*. Some of them perform the work of the *Bhonewallas*, *i.e.*, they carry the midday food of Parsis and others. For this work they generally form themselves into small bodies. Their monthly earnings vary from Rs. 10 to Rs. 15 per mensem apiece. The ordinary wages of unskilled labourers at present vary from 6 annas to 7 annas per day for a male labourer, from 4 annas to 5 annas for a female labourer and from 2 annas to 4 annas for children according to their age. In Bombay wages are paid in cash either daily, weekly or monthly. Labourers, who are strangers to this city, are paid daily and are called *Rojandars* or "daily men." When in the course of a few days these daily men gain the confidence of their employers they are paid weekly or fortnightly, and they sometimes receive money in advance also. In Government establishments payments are made monthly.

The class of hereditary servants, *i.e.*, those who perform menial service from father to son, are generally known as Bankotis and come from such places as Shrivardhan, Harnai, Bankot, Chiplun, Rajapur and Malwan in the Konkan. This class also includes a few Kamathis, Ghatis, Gujaratis, Muhammadans and Mhars. The Bankotis perform menial work in Hindu households.

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[1] For description of various classes of labourers see Population Chapter, *supra*.

They are generally served with meals in the house in addition to stated monthly wages, but in cases in which they are not so served they receive an increase to their wages in proportion to the cost of food required by them. Their monthly wages, with meals, generally vary from Rs. 3 to Rs. 6, and without meals from Rs. 9 to Rs. 12. Though the wages of this class have recently risen by 50 per cent. they are not tempted in these days to continue in domestic service, being attracted by the still higher wages obtainable in the mills and factories of the city. Building operations nowadays absorb a large number of them.

The Hindus contribute three-quarters and the Muhammadans one-quarter of the entire mill-hand population of Bombay. The former include the Konkanis, the Ghatis, the Pardesis, &c., and the latter mostly consist of the Julhais who are hereditary weavers. The average wages earned by mill-hands in a spinning and weaving mill are, in the case of men, Rs. 14 to Rs. 30 per mensem ; of women, Rs. 7½ to Rs. 9, and of children, Rs. 5 to Rs. 7 per mensem. A mill of 30,000 spindles employs about a dozen jobbers whose wages vary from Rs. 30 to Rs. 70 per head.

At the present date (1908) there is an exceptional number of large works going on in Bombay, for example the New Docks with their subsidiary works at Elephanta, and great activity is noticeable in every branch of the building trade and the operations of the Improvement Trust. The mill industry is also exceptionally active, more than a lakh of persons being employed in it, and the ordinary business-life of Bombay is much more brisk than it has been for several years. This state of affairs has led to an unusual demand for labour which mainly accounts for the rise in the wages of labourers noticed above. The demand is more keenly felt from the beginning of March to the end of June which is generally the busy season of the year, the chief reason being that house-owners are anxious to have their houses put in repair before the rains set in, and those who start building works are equally anxious to finish them before the monsoon. About the months of April and May or

on the approach of the monsoon commences the exodus from the city of labourers, who are mostly agriculturists and are anxious to return to their native places to commence agricultural operations. This exodus begins early as the people are afraid of missing the ferry steamers which cease to ply about the end of May or beginning of June. This accounts for the exceptionally high wages that generally prevail during this period of the year. The shortage of labour continues till the return of the labourers to the city in October or November.

The average rates of pay per day which prevail in Bombay City for the several kinds of skilled and unskilled labour in 1909 were as follows :—

Name.	Minimum.	Maximum.
	Rs. a.	Rs. a.
Fitters	0 15	1 13
Machine Men ...	0 12	1 15
Engine Drivers, 2nd class ...	1 15	2 14
Engine Drivers, 3rd class ...	1 3	1 6
Carpenters ...	1 0	1 11
Painters	0 12	1 12
Smiths	1 1	1 12
Stokers	0 8	0 11
Smith's Coolies ...	0 7	0 8
Yard ,, ...	0 6½	0 9
Moulder, Iron ..	0 14	1 15

Name.	Minimum	Maximum.
	Rs. a.	Rs. a.
Moulder, Brass ...	0 15	1 10
Gang Makadum ...	0 13	1 0
Female Coolies ...	0 4	0 7
Tin Smiths ...	0 15	1 4
Sawyers	1 0	1 8
Assistant Sawyers	0 10	0 11
Moulder Coolies ..	0 6	0 8
Pattern Maker ...	1 2	1 13
Cranemen... ...	1 2	1 6
Sign Writers ...	1 6	1 12
Saw Sharpeners...	0 12	1 4
Polishmen ...	0 13	1 4

The variation in the wages of mill hands since 1880 is given in the subjoined table :—

YEAR.	(Weaving Dept.) Weaver.	(Weaving Dept.) Jobber.	(Reeling Dept.) Reeler.	(Sizing Dept.) Warper.	(Sizing Dept.) Head Knitter.
1882 ...	14 to 20	35 to 45	5 to 7	15 to 17	12 to 15
1886 ...	14 to 20	35 to 45	7 to 7·5	15 to 20	14 to 18
1891 ...	14 to 25	35 to 45	7 to 8	12 to 20	7 to 20
1896 ...	12 to 30	30 to 50	7·5 to 9	12 to 20	10 to 20
1901 ...	12 to 30	30 to 50	7·5 to 9	12 to 20	10 to 20
1908 ...	15 to 30	35 to 55	8 to 9	13 to 21	12 to 20

Rents.

The congested condition of Bombay appears to have commenced as early as 1850, when Bombay was reported to be so densely crowded as to be almost uninhabitable except at inconvenient distances from the business-centre, and house-rent was consequently exorbitant even with most wretched accommodation. For instance, the rent of a miserable bungalow containing about 8 habitable rooms averaged from Rs. 60 to Rs. 100 per mensem. This condition of affairs has continued ever since, house-rent showing a steady tendency to increase. At the present time the rents of all classes of houses have risen greatly in Bombay. The valuation of properties being based generally on rentals, the rise in valuation to some extent represents a corresponding rise in rents. But rents have also been increased in some cases by landlords in the hope of obtaining higher values for properties notified for acquisition for public purposes, and also with a view to compensate themselves for loss of rent suffered during plague epidemics, when the tenants vacate houses in the city and live in shelters outside. The break-up of the joint family system in many Hindu homes may also be regarded as a factor in the rise of rents. The average rise in valuation, and in rentals also, since the year 1891 has been ascertained to be not less than 22 per cent., and in several cases it is even greater than that. It has become, indeed, impossible at present to rent the poorest accommodation suitable for a low-paid clerk and his family within reasonable distance of the office at less than Rs. 10 a month. The demolition of houses carried on by the Improvement Trust in connection with their schemes for the improvement of the city has also been partly responsible for a rise in house-rent. In Bombay the rents of chawls and two-storeyed houses abutting on public roads are generally higher than those of similar buildings situated in lanes and oarts. Rents also depend upon the importance of the locality, arrangement of rooms in the buildings, railway and tramway conveniences and the demand in the locality. The rents of properties in business localities are generally very high. Appendix V at the end of this chapter shows the rents of dwellings in different sections of the city.

Valuation of property Houses.

House property in Bombay is bought and sold on the basis of its rental value. This principle is also adopted when the Land Acquisition Act is put in force. The method of valuation is as follows :—(*i*) Cost of erecting a similar building at date of valuation is arrived at ; this entails measuring the structure to ascertain the cubical contents in feet ; the building is then priced at a rate per cubic foot and the total cost is thus determined. The rate per cubic foot varies from 3 to 4½ annas according to the class of building ; for some it would be higher than the maximum given ; (*ii*) the life and age of the existing building are then estimated : this is necessary for determining the amount to be deducted in respect of depreciation ; (*iii*) the normal gross rental is determined ; (*iv*) deductions are made for municipal rates and taxes, for vacancies, bad debts, cost of rent collection and management, for repairs, for sinking fund and for insurance ; (*v*) the balance is then capitalized at a certain number of years' purchase ; and (*vi*) deductions are made for immediate repairs and depreciation.

Municipal rates and taxes are in Bombay practically always paid by the landlord. In amount they vary from year to year between 12½ to 15% of the gross rental. The allowance for vacancies, bad debts, cost of rent collection and management varies with the class of tenant, locality and kind of building. The usual deduction is at the rate of 7½% of the gross rental, but in extreme cases it may fall as low as 2½% or rise as high as 15%. In respect of repairs it is usual to deduct an amount equal to one per cent. of nine-tenths of the cost of the building. In structures having much outside woodwork requiring frequent painting and renewal or in inferior buildings the allowance should be increased. On the other hand in the case of buildings with elaborately carved stone fronts or in the case of those which are very substantially built the allowance may with safety be reduced. The amount to be set aside annually as sinking fund for the replacement of buildings is calculated on the 3½% table. The cost of insurance varies from ⅛ to 1% according to class of building and amount of risk. The allowance as in the

case of repairs is calculated on nine-tenths of the cost of the building, the cost of plinth and foundation being ignored. The number of years' purchase applied to the net rent varies from 14 to 20 according to locality, etc. Sometimes it goes down to ten (*e.g.*, in the case of buffalo stables where the license is liable to be withdrawn) and sometimes rising very slightly above twenty. As however most investors in house property in Bombay expect a return of 6% the usual number of years' purchase is $16\frac{2}{3}$.

The following is an example of a valuation made on the principle explained above :—

Cost of buildings : 91428 cubic feet @ $3\frac{1}{2}$ annas = Rs. 20,000.
Life 100 years—Age 25 years.

		Rs.
Gross annual rent = ...		3,000
Deduct—		
Rates and taxes ... @ 15 % on 3,000 =	450	
Vacancies etc. ... @ $7\frac{1}{2}$ % ,, =	225	
Repairs ... @ 1 % on $\frac{9}{10}$ of 20,000 =	180	
Sinking Fund ... @ ·12 % ,, =	24	
Insurance ... @ $\frac{1}{4}$ % on $\frac{9}{10}$ of ,, =	45	
Total Outgoings ...		924
Net Annual Income ...		2,076
At Years' Purchase ...		$16\frac{2}{3}$
		34,600
Deduct—		
Immediate Repairs	500	
Depreciation	934	
		1,434
Value of Property ...		33,166

The allowance for depreciation in Bombay is usually calculated upon the $3\frac{1}{2}$ % tables. The table given in Appendix VII at the end of this chapter shows the percentage of depreciation in buildings originally having lives of from 20 to 100 years. Similar tables are used for determining the amount of depreciation in the case of machinery, etc. The life and age of a building having been settled the percentage of depreciation is found by reference to the table. The cost of the structure being known the

amount of depreciation to be deducted can easily be ascertained. Should the desired life and age not be given in the table the percentage can be ascertained by looking up in any standard book of tables such as "Inwood" (*a*) the table for sinking fund and (*b*) the table giving the amount which one unit per annum with interest will amount to in a given number of years. Supposing for example we require the percentage of depreciation in a building of life 55 years, age 41 years, we find from the $3\frac{1}{2}$ % table for sinking fund that the amount to be put by annually to produce one unit at the end of 55 years is ·0062, and from the table giving the amount to which one unit per annum with interest will amount in a given number of years that if one unit be put by every year for 41 years and allowed to accumulate at $3\frac{1}{2}$ % compound interest the result will be 88·51. If 88·51 be multiplied by ·0062 the result is ·5487 and by moving the decimal point two places to the right we get 54·87, which is the percentage of depreciation.

Vacant land is valued by comparison with other lands known to have been sold at certain rates per square yard at about the date on which the property has to be valued. It is necessary to carefully enquire into the circumstances of the sales so as to avoid on the one hand forced sales and on the other forced purchases. In the case of the former prices would probably be low whilst in the case of the latter they would just as probably be high. It is easy to imagine that a property about which there had been heavy and costly litigation might be sold to pay costs and it is just as easy to imagine that a mill owner might be squeezed into paying an exorbitant price for land urgently required for extensions. Care has also to be exercised to see that the correct purchase price is entered in the conveyance. It has happened that a sum lower than that which actually changed hands has been entered in the deed to to save stamp duty and cases have come to light where a higher price was entered in the conveyance because the purchaser thought the land was likely to be acquired for public purposes. Between October 1904 and October 1907 there was a great boom in land values in *Vacant land*

Bombay. It has been stated that when the boom was at its height prices were equal to those obtained during the share mania. Since October 1907 prices have fallen in some cases as much as 20 per cent. The rise after October 1904 may be attributed to the increase in population, increased prosperity of the trade of the town, the absorption of large areas by the Port Trust, Railway Companies and City Improvement Trust, the spread of sanitary knowledge causing many persons to move out of the native city, and large money payments (amounting to Rs. 1¾ crores in four years) by the City Improvement Trust. The rise in the Mill Industry and the consequent employment of large numbers of workers has affected land values especially in the northern parts of the town lying between Byculla and Dadar.

The average prices of land per square yard paid by the Municipality for set-backs has risen as follows in the different wards between 1871 and 1906:—A ward, Rs. 15 to Rs. 50; B ward, Rs. 20 to Rs. 75; C ward, Rs. 20 to Rs. 70; D ward, Rs. 8 to Rs. 20; E ward, Rs. 8 to Rs. 20; F and G wards, from less than a rupee to Rs. 10 and Rs. 3 respectively.

The following table shows the prices realized for vacant land in Bombay in 1907-08:—

Charni road	Rs. 38 to	Rs. 55	per sq. yd.
Queens road	,, 42 ,,	,, 60 ,,	,,
Hughes road	,, 25 ,,	,, 40 ,,	,,
Walkeshwar road		,, 40 ,,	,,
Murzban road		,, 60 ,,	,,
Grant road	,, 25 ,,	,, 50 ,,	,,
Esplanade road	,, 200 ,,	,, 300 ,,	,,
Princess street	,, 25 ,,	,, 420 ,,	,,
Girgaum road		,, 40 ,,	,,
Girgaum back road	,, 30 ,,	,, 35 ,,	,,
Dadar road	,, 9 ,,	,, 12 ,,	,,
Parel road (North)	,, 15 ,,	,, 30 ,,	,,
Arthur road		,, 25 ,,	,,
Cuffe parade		,, 40 ,,	,,
Sandhurst road (West) ...	,, 40 ,,	,, 55 ,,	,,
Ditto (East) ...	,, 75 ,,	,, 150 ,,	,,
Currey road	,, 10 ,,	,, 12 ,,	,,
Ripon road		,, 20 ,,	,,
Kazi Sayad street		,, 120 ,,	,,
Shaik Memon street		,, 350 ,,	,,

The following table gives authentic examples of the rise and fluctuation in the value of property in Bombay at different dates :—

	Year.			
(*a*)	1863...	Vacant land sold for	Rs.	1,700
	1874 ..	,, ,, ,, ,,	,,	2,600
	1888...	,, ,, ,, ,,	,,	2,550
	1906...	,, ,, ,, ,,	,,	20,903
(*b*)	1816...	Vacant land and small bungalow	Rs.	1,200
	1860...	,, ,, ,, ,,	,,	12,000
	1907...	,, ,, ,, ,,	,,	1,55,000
(*c*)	1897...	Vacant land per sq. yd.	Rs.	10
	1905...	,, ,, ,, ,,	,,	16
	1906...	,, ,, ,, ,,	,,	25½
(*d*)	1894...	Vacant land	Rs.	7,200
	1900...	,, ,, ...	,,	8,000
	1904...	,, ,, ...	,,	8,000
(*e*)	1902...	Land per sq. yd. ...	Rs.	45
	1907...	,, ,, ,, ...	,,	150
(*f*)	May 1907,	Land and house per sq. yd.	Rs.	55
	Octr. 1907,	,, ,, ,, ,, ,,	,,	68¾
(*g*)	April 1905,	Land and house ...	Rs.	51,600
	Octr. 1906,	,, ,, ,, ...	,,	75,000
(*h*)	1906...	Vacant land	Rs.	51
	1909...	,, ,, ...	,,	40
(*i*)	1906...	Vacant land	Rs.	70
	1908...	,, ,, ...	,,	60

Weights, Measures and Accounts.

The commerce of Bombay being largely in the hands of Gujarathi-speaking people, accounts are usually kept in Gujarathi by native traders. They are characterized by the use of several symbols, such as .।. (=one 4-anna piece); ઽ– (=one anna) ; ઽઽ।.(=one pice) ; and ઽઽઽ૧ (=one pie). Thus the native method of expressing Rs. 23-11-4 would be ૨૩॥=।૧, *viz.*, 23 rupees, 2 quarter-rupees, 3 annas, one quarter-anna and one pie. Ciphers are used to denote no rupees, no annas, and no pies, and a mark "ઽ" is used to show no quarter-rupees and no pice. The mark is omitted if it comes at the end as in 13 annas, 0 pies (.।।।–) or 2 annas (ઽ=).

The *ser* is the standard of weight and measure.[1] The Bombay *ser* weight is equal to 4,900 grains Troy or

[1] Milburn writes in his Oriental Commerce (1813) :—"The Bombay great weights are pice, seers, maunds and candies, thus divided :—

			lb.	oz.	drs.	de
30 pice	make 1 seer	... Avoirdupois	0	14	14	93
40 seers	,, 1 maund...	,,	28	0	0	...
20 maunds	,, 1 candy ...	... ...	560	0	0	...

"Although the above represent the common received standard of

27 tolas and 4 grains. The *ser* measure for grain, etc., is 49·14 cubic inches or is equivalent to 1 lb. and 8 oz. avoirdupois of common rice. Sixty standard tolas' weight of water is estimated to give the capacity of a vessel to contain a one *ser* measure of milk. For oil the *ser* measure contains only 30 tolas' weight of water.[1] English weights such as pounds and ounces are sometimes used by wholesale and retail dealers for such articles as ice, flour and meat.

The measures of length are the *var* (yard) and the *gaj*. The former, which is rapidly becoming the only standard unit, measures 36 inches, and the latter 27 inches.

In Bombay 5 articles of any description are styled a *panchakdi*, 6 a *chhakdi* and 20 a *kodi*. The precise numbers sold as 100 vary as follows[2] :—

Plantains	105
Mahim cocoa-nuts...	112
Bombay cocoa-nuts	125
Mangoes, oranges, figs, etc. ...	136

The large weight measures are the *maund* (40 *sers*) and the *khandi* (800 *sers*) ; while the small weights are the *chhatak* ($\frac{1}{16}$ *ser*), the *nautak* ($\frac{1}{8}$ *ser*), the *pavser* ($\frac{1}{4}$ *ser*) and the *adhser* ($\frac{1}{2}$ *ser*). These weights are used for the wholesale or retail sale of metals, cotton, *ghi*, fuel, spices and other articles usually sold by weight. Certain classes of articles are sold by special weight, *e.g.*, cotton by bale = 392 lbs.; wool by bale = 336 lbs. ; wheat by bag = 2 cwt., while seeds are sold by bags of varying capacity. Surat and Bengal weights are not infrequently used. To compensate for the difference in using small weights a rough allowance is made ; while in the case of certain articles, such as fuel, the standard of large weights also varies.

Besides the above weights, there are certain small weights used by jewellers and goldsmiths. The gold-

gross weights at Bombay, yet there are great commodities which are not governed by them, but are sold by the Surat maund which, notwithstanding it is said to contain only 40 seers, is sometimes 41, 42, 43, through all the intermediate gradations up to 46. Nor is the candy uniformly confined to 20 maunds."

[1] The old measures for oil and milk were, respectively, 30¼ and 63 tolas.

[2] This is reminiscent of the English "baker's dozen."

smith's weights are the *gunj*, *val*, *masa* and *tola*, the *tola* being a trifle heavier than the British-Indian rupee, which weighs 11 *masas* and 5½ *gunjas*. The pearl-weights are the *vassa*, *rati*, *val*, *tank* and *tola*, among which the *rati* is equal to ·1951 grains Troy and the *tola* to 7·19296 grains Troy.

The small dry measure is the *tipri* and the large dry measures are the *payali* (4 *sers*), *phara* (64 *sers*) and *khandi* (512 *sers*). The two latter are rapidly falling into disuse ; and it is usual to allow more than 16 *payalis* to the *phara* according to the kind of grain to be measured.

The weights and measures in use in Bombay are adjusted and stamped at the Crawford Markets by the staff maintained by the Municipality under Section 49 of the Municipal Act. Prior to 1888 this duty was performed by the Police.

APPENDIX I.

Statement showing the various sources of income of tax-payers (1905-06).

SOURCES OF INCOME.	NUMBER OF ASSESSEES.	
	At 4 pies per Rupee.	At 5 pies per Rupee.
PART I.—*Salaries, &c.*	5,824	2,365
Total I. ...	5,824	2,365
PART II.—*Companies.*		
Banking	...	6
Building and Land	...	4
Cotton Spinning and Weaving	...	70
Cotton Pressing, Ginning and Cleaning	...	53
Flour Mills	...	3
Insurance, fire, life, marine	...	35
Printing and publishing	...	2
Steam Navigation	...	2
Railway	...	7
Telegraph and Telephone	...	3
Tramway	...	2
Others	...	57
Total II. ...	...	244
PART IV.—*Other Sources.*		
(*a*) *Professions* :—		
Education	24	4
Engineering and Architecture	24	29
Law ; Barristers	14	42
Law ; Attorneys ; pleaders and other practitioners	56	73
Medical	107	84
Others	112	64
Total (*a*) ...	337	296

SOURCES OF INCOME.	NUMBER OF ASSESSEES.	
	At 4 pies per Rupee.	At 5 pies per Rupee.
(*b*) *Manufacture*, Construction and Manipulation (other than companies.):—		
Cotton Spinning and Weaving	1	7
Flour Mills	1	4
Metal work (foundaries, workshops, &c.) ...	17	10
Oil Mills	2	2
Rope works	5	4
Saw and Timber Mills	1	2
Silk reeling and weaving	5	1
Spirits	5	6
Sugar making and refining	7	9
Tanneries and leather work	2	1
Others	153	58
Total (*b*) ...	194	104
(*c*) *Commerce and Trade* :—		
Agents and Brokers	679	626
Bankers and money-lenders	725	232
Contractors	49	52
Merchants and dealers in :—		
(i) Animals, including stable keepers	7	15
(ii) Apparel and drapery	46	21
(iii) Books and stationery	29	20
(iv) Building materials	62	28
(v) Food grains	356	62

SOURCES OF INCOME.	NUMBER OF ASSESSEES.	
	At 4 pies per Rupee.	At 5 pies per Rupee.
(*c*) *Commerce and Trade* :—contd.		
(vi) Other food stuffs (grocers & provisioners)...	145	48
(vii) Hides and skins	15	13
(viii) Liquors (spirits, wines, beer)	148	29
(ix) Metals (other than gold and silver)	44	38
(x) Opium	4	14
(xi) Piece-goods (cotton, wool, silk)	479	287
(xii) Precious stones and Jewellery...	36	51
(xiii) Salt	3	5
(xiv) Other commodities	971	543
Printers and publishers, including newspaper-offices.	31	14
Total (*c*) ...	3,829	2,098
(*d*) *Property*—Owners of		
Houses	1,751	1,518
Estates taxable under the Act	20	17
Total (*d*) ...	1,771	1,535
(*e*) *Others not classified above*	195	57
Total (*e*) ...	195	57
Total IV. ...	6,326	4,090
GRAND TOTAL ...	12,150	6,699
	(18,849)	

The income-tax collected in Bombay from joint stock companies amounts to nearly 80 lakhs, representing profits of 310 lakhs.

APPENDIX II.

Statement showing the approximate number of holders of Government Securities, Municipal and Improvement Trust debentures and Bombay Port Trust bonds and the amount held by them and the interest paid thereon.

—	Government Securities.	The City Municipal Debentures.	Bombay Port Trust Bonds.	City of Improvement Trust Debentures.	Total.	
					Number.	Amount of Securities.
	No.	No.	No.	No.	No.	Rs.
Number of holders in 1906	14,980	3,235	905	642	19,762	34,06,93,550
Banks and Firms	1,093	272	49	79	1,493	13,83,21,200
Europeans	2,690	672	145	196	3,703	1,89,56,250
Hindus	4,114	814	257	112	5,297	7,69,02,600
Muhammadans	317	32	9	25	383	2,16,30,400
Parsis	6,766	1,445	445	230	8,886	8,48,83,100
	Rs.	Rs.	Rs.	Rs.	Rs.	
Amount of Securities in 1871	4,22,94,000	......	......	......	4,22,94,000	
Do. do. in 1891 ...	12,17,71,000	2,11,88,000	59,88,050	......	14,89,47,050	
Do. do. in 1906	27,71,76,000	4,35,81,500	61,35,050	1,38,01,000	34,06,93,550	
Amount of interest paid in 1871... ...	10,57,350	......	......	......	10,57,350	
Do. do. in 1891... ...	24,35,420	10,59,400	2,39,522	......	37,34,342	
Do. do. in 1906... ...	48,02,466	20,02,880	2,45,402	5,52,040	76,02,788	

The figures given in the above statement refer to loans dealt with by the Bombay Bank and excluding other loans of the Port Trust and Improvement Trust outstanding on which the Bank does not pay the interest.

APPEN

Statement showing the average prices of certain food-

Year.	Rice, first sort.	Rice, second sort.	Wheat.	Gram.	Tur dal.	Oil, cocoanut.	Oil, sweet.	Ghi (best)	Milk.	Gul (Jagri.)
										In lbs. per
1870 ..	11	13 1/3	14	13 1/2	11 1/2	5 1/8	5	2	6 3/4	7 3/4
1871 ...	12 4/5	14 5/8	18 1/4	24 1/3	15 1/4	6	5 3/4	2 1/2	12 5/8	9 3/4
1872 ...	12 5/8	14 3/8	19 3/4	18 1/2	14	7 3/8	5 7/8	2	13 1/2	10 3/8
1873 ...	14 1/4	18 1/4	21 3/4	20 1/4	14 3/8	7 3/8	6 5/8	2 3/8	10 3/4	10 7/8
1874 ...	15	19 3/8	22 1/4	20 1/4	16 5/8	6 3/4	7	2 3/4	6	10 7/8
1875 ...	13 5/8	16 1/2	21 3/8	24 1/4	21 3/8	6 5/8	8 3/8	2 1/4	4 3/8	11 1/8
1876 ...	14 1/8	16 7/8	20 5/8	24 1/4	16 1/8	5 5/8	6 5/8	2 1/4	4 1/4	11 1/4
1877 ...	11 1/8	13 5/8	14 1/2	15 3/4	13 5/8	5	4 3/4	2 1/8	4 1/4	9 1/2
1878 ...	10	12	12	13 1/3	11 3/4	4 5/8	4 3/4	2 1/8	4 1/4	7 1/8
1879 ...	10 3/4	12 1/2	12 5/8	14	10 1/2	5 1/4	5 1/4	2 1/8	4 1/4	8 1/8
1880 ...	12 1/4	14 1/2	15 3/4	19 3/4	18 3/4	6 5/8	6 1/4	2 1/4	4 1/4	9 5/8
1881 ...	14 1/8	16 3/4	20 1/8	27	22 1/4	7 3/8	7 1/2	2 1/4	4 1/2	11
1882 ...	14 3/8	16 3/4	18 7/8	24 7/8	18	6 1/2	7 1/8	2	4 3/8	10 1/2
1883 ...	14 1/4	16 7/8	18 5/8	22 3/4	19 1/8	5 5/8	6 5/8	1 7/8	4 1/2	11 1/8
1884 ...	13 7/8	15 3/4	20 1/4	24 1/2	19 5/8	6 1/4	6 3/4	1 3/4	4 3/8	12 3/4
1885 ...	13 3/8	15 1/4	20 3/4	25 5/8	16	6 3/4	6 3/4	1 7/8	4 1/4	11 1/2
1886 ...	13 1/4	15 1/4	18 5/8	22 1/4	15 3/4	6 1/4	7	1 7/8	4 1/4	12 1/4
1887 ...	13	15	18	21 1/8	15 1/2	6 3/8	7	1 5/8	4 1/4	12
1888 ...	12	13 1/2	17 3/8	19 7/8	14 7/8	6 5/8	6 1/4	1 3/4	4 3/8	12
1889 ...	12 5/8	15 1/8	18 1/4	20 3/8	13 1/2	6 3/8	5 3/8	1 3/4	4 1/2	12
1890 ...	14 1/4	16 1/8	21	22 1/4	18 7/8	6 3/4	6 1/4	1 7/8	4 1/2	10 3/8
1891 ...	13 1/3	15	19 1/4	20 1/8	19 1/8	6 3/4	6 1/2	1 15/16	4 3/8	11 3/8
1892 ...	13 5/8	15	16 7/8	19 1/8	16 1/2	7 1/4	5 7/8	1 7/8	4 1/4	11 1/8
1893 ...	12 1/8	15 1/2	19 3/8	25 1/2	17	5 3/4	6 1/2	1 13/16	10 1/2	10 3/8
1894 ...	11 5/8	18 7/8	21 3/4	31 1/4	16 7/8	5 3/4	7 7/8	1 15/16	11 1/2	11 1/4
1895 ...	15 3/4	21 3/8	26 1/8	28 3/4	16 7/8	6 1/4	8 1/2	2	11 5/8	13 3/8
1896 ...	15 3/8	20 1/2	23	23	15 3/4	5 7/8	8 3/8	2 1/8	11 5/8	13 3/4
1897 ...	11 7/8	16 3/4	14	15 5/8	10 7/8	5 1/2	...	2 3/16	11 5/8	10 1/4
1898 ...	12	19 3/8	14 7/8	22 3/4	18 1/2	5 3/4	...	2	11 1/2	13 1/8
1899 ...	13 1/8	19 3/8	15 3/8	22 3/8	14 1/2	5 3/8	...	2 1/16	11 5/8	10 1/8
1900 ...	12	18	12	16 3/8	10 3/8	5 3/8	...	1 7/8	11 5/8	10 3/8
1901 ...	12 7/8	18 7/8	13 1/4	20 1/4	10 7/8	5 1/8	...	1 5/8	11 5/8	9 5/8
1902 ...	13 1/8	17 1/2	14 3/8	23 1/4	13 1/8	4 5/8	...	2 1/8	11 5/8	11 3/8
1903 ...	12 1/2	16 5/8	16 1/4	24 7/8	13 1/8	5 1/2	...	2	11 5/8	11 5/8
1904 ...	12 3/8	16 3/8	16 1/2	25 5/8	12 5/8	5 1/8	...	1 15/16	11 5/8	10
1905 ...	12 1/2	16 5/8	16 3/4	24 1/4	12 3/4	4 5/8	...	1 15/16	11 1/2	9 1/2
1906 ...	13 1/8	16 3/8	18 1/4	21 7/8	14 1/2	4 5/8	...	1 7/8	11 1/2	9 3/4
1907* ...	14 1/2	17 3/8	20 5/8	22 1/2	14 1/2	4	...	1 7/8	11 3/8	11 1/8

* Average for six

DIX III.

stuffs, &c., in the City of Bombay from 1870 to 1907.

Sugar.	Potatoes.	Onions.	Tea.	Salt.	Bread.	Mutton.	Tobacco.	Firewood.	Fowls (per dozen).			Eggs (per dozen).	
Rupee.													
									Rs.	a.	p.	A.	p
...	15⅛	...	...	29⅜	4½	3	1⅗	89	9	12	5	5	9
...	23¼	...	...	22	5½	3⅞	2	107	10	0	0	5	0
...	21⅜	...	...	32⅜	5½	4	1	107	8	14	8	5	11
...	23½	...	...	34⅞	8	4⅝	2	116	8	9	9	5	6
...	21⅝	...	...	32½	5¾	3¼	2⅛	140	8	7	8	3	4
...	23	...	...	26⅛	5⅜	3⅝	2⅛	131	6	9	10	4	0
...	21	...	...	25	5⅛	3¾	2⅜	133	7	8	5	4	0
...	18½	..	...	25	5	4½	2⅛	131	7	8	8	4	6
...	10¼	...	...	19¼	5⅜	3⅞	1¾	131	8	6	0	4	8
...	18	...	...	19⅛	5⅜	4½	2	126	7	4	6	4	8
...	21⅛	...	...	20⅜	5¼	4⅜	2¼	122	7	12	6	4	11
...	19	. .	...	20⅝	5⅜	4¼	2⅜	117	7	15	0	4	9
...	21	...	...	24⅜	5½	4¼	2⅜	122	8	3	8	4	2
...	23⅝	...	...	25¾	5⅞	4	2⅜	122	8	1	2	4	0
...	23⅜	...	...	24⅜	5⅜	3¾	2⅜	119	8	6	7	4	1
...	24⅝	...	...	24⅝	6⅛	4⅞	2⅜	129	8	0	6	4	0
...	20¾	...	...	25	6⅛	4	2¼	122	8	4	4	4	0
...	22	...	...	25⅛	6⅛	4	2⅜	126	7	15	3	4	0
...	21¾	..	...	22⅜	6⅛	4	2¼	135	8	2	0	4	0
...	17⅛	...	...	20⅜	7⅜	4	2⅜	135	7	15	3	4	4
...	17⅛	...	...	18¼	9⅛	4	2½	133	8	0	7	4	6
...	17¼	...	...	18¼	9⅛	4	2⅓	128	8	4	8	4	6
7	16⅜	...	...	18	9⅝	4	2½	125	8	5	11	4	6
7	23¼	48¾	1¼	16¾	1.¾	4	2¼	140	8	1	11	4	6
7⅝	22⅝	59¾	1¼	17	12¾	4½	2⅜	158	7	15	10	4	6
8⅛	31⅞	47⅝	1¼	16¾	13½	7¼	2¼	183	5	13	2	4	3
8⅜	30¼	43⅜	1⅞	16¾	12¾	7⅞	2¾	174	5	5	4	4	0
8⅞	22	40⅝	1⅞	19⅜	11	6¾	2¾	158	5	15	0	4	6
9½	26⅝	44⅛	1⅞	21	10⅜	6⅛	2¾	146	7	0	6	5	1
9¼	32¾	50½	1⅞	18	10⅜	6⅛	2¾	146	7	0 .	5	4	9
8¾	20	25⅝	1⅞	19⅛	10⅜	6⅛	2¾	146	7	7	0	4	11
9⅜	32¾	50½	1⅞	19⅛	10⅜	6⅛	2¾	146	7	9	4	5	2
10½	33⅝	41¼	1⅞	19⅝	10⅜	6⅛	2¾	146	7	2	0	4	11
9¾	32½	52⅜	1⅞	18¼	10⅜	6⅛	2¾	146	7	2	0	5	0
9⅞	27¼	50	1⅞	19⅛	10⅜	6⅛	2¾	146	7	6	0	4	7
8⅝	22⅝	52⅝	1⅞	22	10⅜	6⅛	2¾	146	7	4	3	4	4
11⅛	24⅝	37⅝	2⅛	26⅝	11⅝	6⅛	2¾	146	7	(	1	5	2
11⅛	32¼	51⅛	2⅝	32	12⅜	6⅛	2¾	145	6	5	2	5	1

months ending June.

APPENDIX IV.

Prices (wholesale) of Staple Articles of Import and Export.

		1861		1871		1881		1891		1901		1907
		January.	July.	January.	July.	January.	July.	January.	July.	January.	July.	
Import.												
Coal	Ton	...	...	$17\frac{1}{2}$	21	$16\frac{3}{8}$	14	14	11	24	24	19
Silk, Raw	Pucca Seer	$2\frac{7}{8}$	...	$3\frac{3}{4}$	$3\frac{1}{4}$	$4\frac{7}{16}$	$4\frac{1}{2}$	4	4	$3\frac{1}{4}$	$3\frac{3}{16}$	5
Sugar, Mauritius...	Cwt.	...	...	17	18	17	$17\frac{3}{8}$	$10\frac{3}{4}$	$11\frac{3}{4}$	$11\frac{11}{16}$	$10\frac{5}{8}$	$8\frac{7}{16}$
Export.												
Cotton	Khandi	118	...	185	215	243	...	215	...	225	203	$238\frac{1}{2}$
,, Yarn ...	Pound	...	...	...	...	$\frac{7}{16}$	$\frac{7}{16}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{11}{32}$	$\frac{7}{16}$
,, Cloth ...	Pound	...	...	...	...	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{7}{16}$	$\frac{7}{16}$	$\frac{17}{32}$	$\frac{15}{32}$	$\frac{9}{16}$
Linseed	Cwt.	$4\frac{11}{12}$	...	$6\frac{1}{16}$	$5\frac{11}{16}$	$6\frac{1}{4}$	$6\frac{1}{4}$	$6\frac{1}{4}$	...	$9\frac{3}{8}$	$9\frac{15}{16}$	$7\frac{3}{8}$
Opium	Chest	1,498	1,363	1,413	1,464	1,608	1,592	1,106	1,145	1,279	1,281	1,400
Wheat, Khandwa.	Khandi	...	...	$19\frac{1}{2}$	...	28	26	$31\frac{1}{2}$	35	38	35	32
Wool	Khandi	$137\frac{1}{2}$	...	$132\frac{1}{2}$	170	225	187	$132\frac{1}{2}$	$132\frac{1}{2}$	120	140	...

APPENDIX V.

Comparative Statement showing monthly Rents of Houses and Bungalows in Bombay in 1898-99 and 1908-09.

Classification of Properties.	Ward.	Average rent of a room in 1898-99.	Average rent of a room in 1908-09.
(1) Chawls.		Rs. a.	Rs. a.
Colaba, Fort and Esplanade	A	3 4	5 10
Mandvi, Chakla, Umarkhadi and Dongri ...	B	3 8	6 8
Market, Bhuleshwar, Kumbharwada, &c. ...	C	4 8	6 8
Girgaum, Walkeshwar and Mahalakshmi ...	D	3 4	6 0
Mazagon, Byculla, Kamathipura and Nagpada.	E	2 8	4 4
Parel, Sewri and Sion	F	1 10	3 4
Mahim and Varli	G	1 8	3 0
(2) Two-storeyed Houses, *i.e.*, House consisting of Ground Floor and 1st Floor.		*Average rent of two-storeyed houses.*	
Colaba, Fort and Esplanade	A	264 8	361 0
Mandvi, Chakla, Umarkhadi and Dongri ...	B	69 8	130 0
Market, Bhuleshwar, Kumbharwada, &c. ..	C	108 0	162 8
Girgaum, Walkeshwar and Mahalakshmi ...	D	90 0	130 0
Mazagon, Byculla, Kamathipura and Nagpada	E	70 0	100 0
Parel, Sewri and Sion	F	60 0	100 0
Mahim and Varli	G	50 0	70 0
(3) Bungalows. (Ground Floor.)		*Average rent of Bungalows.*	
Colaba, Fort and Esplanade	A	130 0	190 0
Mandvi, Chakla, Umarkhadi and Dongri ...	B	There are no bungalows in this Ward.	
Market, Bhuleshwar, Kumbharwada, &c. ...	C	Do.	do.
Girgaum, Walkeshwar and Mahalakshmi ..	D	135 0	176 0
Mazagon, Byculla, Kamathipura and Nagpada.	E	70 0	125 0
Parel, Sewri and Sion	F	63 0	83 0
Mahim and Varli	G	65 0	81 0

APPEN

Table of

Calculated at 3½ per

Ye

Life.	20	25	30	35	40	45	50	55	6•
Age Years.								Percentage of	
1	3·54	2·57	1·94	1·50	1·18	0·95	0·76	0·62	0·51
2	7·204	5·230	3·94	3·05	2·40	1·92	1·55	1·26	1·04
3	10·99	7·98	6·02	4·65	3·66	2·95	2·36	1·92	1·58
4	14·92	10·83	8·18	6·32	4·97	4·00	3·20	2·61	2·15
5	18·98	13·78	10·40	8·04	6·32	5·09	4·07	3·32	2·73
6	23·19	16·83	12·71	9·82	7·73	6·22	4·98	4·06	3·34
7	27·53	19·99	15·09	11·66	9·17	7·39	5·91	4·82	3·96
8	32·04	23·26	17·56	13·58	10·68	8·60	6·88	5·61	4·62
9	36·70	26·64	20·11	15·55	12·23	9·84	7·87	6·42	5·28
10	41·53	30·15	22·76	17·66	13·84	11·14	8·92	7·27	5·98
15	68·30	49·59	37·43	28·94	22·76	18·33	14·66	11·96	9·84
20	...	72·68	54·86	42·42	33·37	26·87	21·49	17·53	14·42
25		...	75·56	58·42	45·96	37·00	29·60	24·14	19·86
30			...	77·43	60·92	49·04	39·23	31·01	26·33
35				...	78·67	63·34	50·67	41·33	34·00
40					...	80·32	64·26	52·42	43·12
45						...	80·39	65·58	53·95
50							...	81·21	66·80
55								...	82·08
60									...
65									
70									
75									
80									
85									
90									
95									

DIX VI.

Depreciation.

cent. per annum.

ars.

65	70	75	80	85	90	95	100	Life.
Depreciation.								
0·42	0·35	0·29	0·24	0·20	0·17	0·14	0·12	1
0·85	0·71	0·59	0·49	0·41	0·35	0·28	0·24	2
1·30	1·08	0·90	0·74	0·62	0·52	0·43	0·37	3
1·77	1·48	1·22	1·01	0·84	0·72	0·59	0·51	4
2·25	1·87	1·54	1·28	1·07	0·91	0·75	0·64	5
2·75	2·29	1·90	1·57	1·31	1·11	0·92	0·79	6
3·26	2·72	2·25	1·86	1·55	1·32	1.08	0·93	7
3·80	3·17	2·63	2·17	1·81	1·54	1·27	1·09	8
4·35	3·62	3·00	2·48	2·07	1·76	1·45	1·24	9
4·93	4·11	3·40	2·82	2·35	1·99	1·64	1·41	10
8·10	6·75	5·59	4·63	3·85	3·28	2·70	2·31	15
11·88	9·90	8·20	6·79	5·66	4·81	3·96	3·39	20
16·35	13·63	11·29	9·34	7·79	6·62	5·45	4·67	25
21·68	18·07	14·97	12·39	10·32	8·78	7·23	6·19	30
28·00	23·33	19·33	16·00	13·33	11·33	9·33	8·00	35
35·51	29·59	24·52	20·29	16·91	14·37	11·84	10·15	40
44·42	37·03	30·67	25·38	21·15	17·98	14·80	12·69	45
55·01	45·85	37·99	31·44	26·20	22·27	18·34	15·72	50
67·59	56·33	46·67	38·62	32·18	27·36	22·53	19·31	55
82·54	68·78	56·99	47·16	39·30	33·41	27·51	23·58	60
...	83·56	69·24	57·30	47·75	40·58	33·42	28·65	65
	...	83·79	69·35	57·79	49·12	40·45	34·67	70
		...	83·64	69·70	59·25	48·79	41·82	75
			...	83·86	71·28	58·70	50·32	80
				...	85·57	70·47	60·40	85
					...	84·45	72·38	90
						...	86·61	95

CHAPTER V.

COMMUNICATIONS AND TRADE.

Railways. *The Great Indian Peninsula Railway.*[1]

In connection with general schemes for railway-construction in India, formulated in 1843, Mr. G. T. Clark prepared plans for a line from Kurla to Thana, to be called "The Bombay Great Eastern Railway." The permanent way was to consist of wrought-iron rails, and the line across the salt-marshes at Sion was to be floated upon large hurdles formed of mangrove bushes, following the example of George Stephenson in the case of Chat Moss between Liverpool and Manchester. Passengers, cattle, sheep, etc., were to be carried by two daily trains in each direction, all goods being conveyed by horse-traction. Eventually horse-agency was rejected in favour of locomotives for all trains, which were not to exceed a speed of 10 miles an hour. This scheme was investigated by a special committee and by Mr. Henry Conybeare,[2] and was finally approved by the citizens of Bombay at a public meeting in the Town Hall on April the 19th, 1845, and an "Inland Railway Association" was formed "for the purpose of promoting enquiries into the applicability of railway communication to this side of India." Meanwhile, through the energy of Mr. John Chapman and Messrs. White and Borrett, Solicitors of Whitehall Place, a company of English capitalists was formed for the same purpose in London under the title of the Great Indian Peninsula Company, with the famous Robert Stephenson as Consulting Engineer and the Honourable J. Stuart Wortley as chairman of the provisional committee. In response to their suggestion, an influential committee was formed in Bombay in July 1845, to work

[1] This account of the railway is taken from a monograph by Mr. Frank J. Clark, entitled "The Great Indian Peninsula Railway under the Original Company's Administration. A Retrospect," and printed for private circulation in August 1900.

[2] Mr. Conybeare was subsequently appointed Superintendent of Repairs to the Municipal Commissioners, a post approximating to the modern Executive Engineer to the Municipal Corporation.

in conjunction with the London committee, the Chairman being Mr. J. P. Willoughby, Chief Secretary to Government, and the Secretary Mr. A. S. Ayrton of the firm of Messrs. Ayrton and Walker, Solicitors,[1] and in August of the same year Mr. Chapman was despatched to Bombay to make enquiries on the spot. After the country up to and including the Ghats had been thoroughly examined by him and by Messrs. Clark and Conybeare, the Great Indian Peninsula Railway Company was incorporated by an Act of the 1st August, 1849, the contract between the Directors of the East India Company and the Company being made on the 17th August of the same year [2]. On the 14th November Mr. J. J. Berkley was appointed Chief Resident Engineer, with Messrs. Ker and Graham as 2nd and 3rd Engineers, and Mr. William Walker (famous as the author of "Tom Cringle's Jottings") as Storekeeper. They arrived in Bombay in February, 1850, and devoted the following twelve months to a survey of the line to Thana and thence to Kalyan, together with a short branch to "the Port of Mahim" and early in 1851 a contract was made with an English firm for the construction of the line to Thana.[3]

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[1] The ordinary members of this committee were:—R. W. Crawford of Messrs. Remington and Co.; Colonel G. R. Jervis, Chief Engineer; Cursetji Cowasji, J. P.; S. S. Dickenson; Bomanji H. Wadia, J. P.; J. Smith of Messrs. Nicol & Co.; J. H. Jackson; Vicaji Meherji; H. H. Glass, Collector of Customs; Jagannath Shankarsett, J. P.; Captain Swanson, Presidency Paymaster; Cursetji Jamsetji Jeejeebhoy, J. P.; R. Spooner, Deputy Collector of Customs; Dadabhoy Pestanji Wadia, J. P.; G. Farie of Messrs. McVicar Burn & Co. The Trustees were:— P. W. Le Geyt, Senior Magistrate of Police; Jeejeebhoy Dadabhoy Mughana; and B. Remington of Messrs. Remington & Co.

[2] The contract stated that the capital should be £500,000, providing that the company might increase this amount to a million sterling in the event of its being able to make "any railway or railways of greater extent than a railway to Callian (Kalyan, 34 miles from Bombay), *viz.*:—an extension to the Malsej Ghat" (situated between the Bhor and Thal Ghats). The line is called "The experimental line of railway" throughout the contract.

[3] The first locomotive seen in India was one employed by these contractors for ballasting purposes. It was christened the "Falkland" in honour of the Governor of Bombay and commenced running on the 18th February, 1852. It exercised a remarkable effect upon the scepticism of the native population regarding the value of the railway. See Bombay Quarterly Review of April, 1855.

On April the 16th, 1853, the first twenty-one miles of rail from Bombay to Thana were opened for traffic. The day was kept as a public holiday, and the Commander-in-Chief placed the garrison band at the disposal of the Company and arranged for the firing of salutes.[1] This year also witnessed the registration of a second contract providing *inter alia* for the construction of a line "from Kalyan to Shawpoor" (now Asangaon, 54 miles from Bombay). On the 1st May 1854, the extension to Kalyan was opened; and towards the end of the year Mr. Berkley submitted a report in favour of the Thal Ghat incline for a trunk line towards Khandesh, and added in the following year a second report which advocated the construction of a locomotive incline over the Bhor Ghat.[2] New Year's day, 1861, witnessed the opening of the line to Kussarah at the foot of the Thal Ghat, the three termini at Nagpur, Jubbulpore and Raichur being respectively reached on the 20th February 1867, the 8th March, 1870, and the 1st May, 1871.

The opening of the Bhor Ghat incline took place on the 21st April, 1863, amid great rejoicing. Sir Bartle Frere, the Governor, was present and, recalling the words of Sir John Malcolm in 1830, remarked:—"When I first saw the Ghat some years later, we were very proud in Bombay of our mail cart to Poona, the first and at that time, I believe, the only one running in India. But it was some years later before the road was generally used for wheeled carriages. I remember that we hardly met a single cart between Khandalla and Poona; long droves of pack bullocks had still exclusive possession of the road; and probably more carts now pass up and down the Ghat in a week than were then to be seen on it in a whole year. But the days of mail-cart and bullock-cart, as well as the *brinjari* pack bullocks, are now drawing to a close." The Thal Ghat incline was opened in January, 1865. The subjoined table shows

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[1] Bombay Times, April 16th, 1853.

[2] The records of the Sassoon Mechanics Institute contain two admirable lectures by Mr. Berkley on the magnificent feat of engineering performed on the Thal and Bhor Ghats.

the magnitude of the work accomplished on the two inclines :—

	Thal Ghat.	Bhor Ghat.
Total Length of Incline ...	9 miles, 26 chains.	15 miles, 69 chains.
Total Rise	972 feet.	1,831 feet.
Number of Tunnels ...	13	25
Longest Tunnel	490 yards.	437 yards.
Number of Viaducts ...	6	8
Largest Viaduct	250 yards long. 200 ft. high.	168 yards long. 139 ft. high.
Total Cost	Rs. 55,12,217	Rs. 1,05,00,297.

The incalculable benefits conferred upon the country by the two main lines of the Great Indian Peninsula Railway were so quickly manifested that, even before those lines were completed, fresh railways were projected which have gradually been linked up to the Great Indian Peninsula system since 1871. For example, during the famine of 1877 the company played a leading part in the relief of distress ; and for a portion of the period Government exercised, for the only time in the history of the company, the power reserved to it of requiring the railway to carry traffic only as directed by itself.

On the 1st January, 1885, an agreement was entered into between the Bombay, Baroda & Central India Railway Company and the Great Indian Peninsula Railway Company for the interchange of coaching and goods stock. Each line also acquired power to run over the track of the other *via* Dadar Junction, so that the former company could send its goods trains direct to Carnac Bandar and the latter obtained the same privilege in respect of Colaba. Further it was mutually agreed that, if at any future date it appeared expedient in the interest of the public service to do so, a local passenger train service should be established between Bandora on the Bombay, Baroda & Central India Railway and the Victoria Terminus *via* Dadar Junction.

On the 1st July, 1900, the Secretary of State, in accordance with the terms of the contract of 1848, exercised his right of purchase : and the railway passed from the hands of the company into those of Government, the purchase-price being £34,859,217 payable by means of annuities extending over a period of 48 years and 48 days. Further by virtue of indentures of the 21st December 1900 between the Secretary of State and the Great Indian Peninsula and Indian Midland Railway Companies, the Great Indian Peninsula Railway Company undertook to manage, maintain and work the two systems as one, thereby adding to the 1,562 miles of their own line a further mileage of 1,239.

When the construction of the line was commenced the Chief Engineer's office was situated in the Bombay Green (now Elphinstone Circle), being subsequently transferred to Mount Castle in Victoria Road, Mazagon.[1] About 1863 it was located in a lane leading off Grant road, and was again moved in 1865 to Byculla Villa, now the G. I. P. Railway Infirmary. During this period the Agent's and Accountant's offices were housed in Shankarsett's bungalow, opposite the Synagogue at Byculla. In 1869 the Chief Engineer's office was moved to the building in Church Gate street, known as the old B. B. & C. I. Railway offices, while the Agent's and Accountant's offices were accommodated for a short time in the present Temple Bar Hotel, facing the King's Equestrian Statue. In 1870 all three offices were removed to Messrs. Remington & Co.'s building in Elphinstone Circle. The Traffic offices had been located from the commencement in the old station buildings at the Bori Bandar ; while the head-quarters of the Locomotive department were at Byculla in the building now occupied by the Telegraph Superintendent, being eventually removed to Parel in June, 1882. Finally in 1886 all the offices, except those of the Locomotive department, were transferred to the splendid building at Bori Bandar known as the Victoria Terminus.[2] The Company's workshops at Parel were opened in 1879.

[1] This house is now called Victoria Hall and was occupied by the late Mr. Alexander Mackenzie of the Byculla Saw Mills.

[2] For history and details of Victoria Terminus, see Places and Objects of Interest.

The following table shows the earnings of the Company at quinquennial intervals since 1854 :—

(*In thousands*; ooos *omitted*.)

Year.		Total receipts.	Net earnings.	Year.		Total receipts.	Net earnings.
		Rs.	Rs.			Rs.	Rs.
1854	...	2,28	1,03	1884	...	3,36,56	1,60,42
1859	...	18,29	8,92	1889	...	3,70,69	1,80,09
1864	...	71,60	19,44	1894	...	3,62,74	1,63,83
1869	...	1,58,01	52,97	1899	...	3,58,09	1,59,44
1874	...	2,01,66	82,34	1904	...	4,82,41	2,41,80
1879	...	2,52,48	1,01,90	1908	...	4,68,33	1,76,86

The total receipts and net earnings of the company in 1908 amounted to Rs. 4,68,32,971 and Rs. 1,76,86,213 respectively. The most prosperous year was 1891, when the total receipts amounted to 452 lakhs, and the net earnings to about 234 lakhs. In the same year the highest tonnage of up traffic only, dealt with in a single day at Bombay, was 11,260 tons ; while the daily average for the first six months of the year was 5,638 tons.

The total mileage of the line at the time of its transfer to Government in 1900 and at the present date (1908) is shown hereunder :—

		Double Line.	Single Line.	Siding.	Total.		Double Line.	Single Line.	Siding.	Total.
		Miles.	Miles.	Miles.	Miles.		Miles.	Miles.	Miles.	Miles
1900.	G. I. P. Railway...	462	826	261	2,011	1908.	577	831	314	2,299
	I. M. Railway ...	...	..	...	...		...	810	141	951
	A.-D. C. Railway .	...	...	...	...		...	126	32	158
	State Lines worked by the Company	...	203	23	226		...	474	54	528

In 1870 through communication was established with Calcutta, and in 1871 with Madras, which led to a large increase in both passenger and goods traffic. From 1880 onwards the goods traffic has steadily expanded, owing in large measure to the rapid growth of the European factory system in Bombay and the consequently increased traffic in cotton. The quantity of cotton imported into Bombay by the railway has been more than trebled since 1880, the quantity carried in 1905 amounting to

339,047 tons as compared with 89,115 tons in 1880. The general increase in the goods traffic is also largely attributable to larger exports from Bombay of grain and oilseeds, while the railway has carried out of Bombay to other parts of India an ever-increasing quantity of piece-goods, twist, yarn, and European machinery. A great reduction in the rates of fares since 1871 has been the chief cause of the increased passenger-traffic; for whereas in 1871 the rates for 1st class, 2nd class, 3rd class by mail-trains, and 3rd class by ordinary trains, were respectively 1½ annas, 9 pies, 4 pies, and 2½ pies per mile, in 1908 they stood respectively at one anna, 6 pies, 3 pies and 2½ pies per mile for the first 50 miles and 2 pies per mile over 50 miles. For local trains the 3rd class fare is calculated at 2⅔ pies per mile.

The subjoined table gives the average number of passengers conveyed and the average tonnage of goods carried to and from Bombay City from 1870 to 1908—

Number	1870.	1880.	1890.	1900	1908.
Of passengers booked to and from stations in Bombay City.	1,507,421	2,250,822	7,798,154	14,363,703	15,479,854
Of passengers booked to stations in Bombay City.	721,144	1,108,690	3,874,496	7,109,945	7,647,426
Of Tons of goods booked to and from stations in Bombay City.	339,771	693,373	1,261,124	1,277,087	1,825 007
Of Tons of goods booked to stations in Bombay City.	212,905	507,013	938,455	716,610	1,247,111

An increase of passenger traffic is likewise noticeable between the city and its suburbs. Excluding the terminus the railway possesses nine stations within the limits of Bombay island, namely (1) Masjid, which is close to the native business-quarter and from which a branch line runs to Carnac bander and the docks, (2) Mazagon, (3) Byculla, (4) and (5) Chinchpughli and Currey Road, which feed the industrial centre of the island, (6) Parel, (7) Dadar Junction, (8) Matunga and (9) Sion. Between all these stations a very large number of persons daily travel; but perhaps

the most noticeable increase is between the terminus and suburban places outside the island. The difficulty of obtaining house-accommodation within the city has of late years become so acute that many persons have built, and are still building, houses in the northern portion of the island or are seeking accommodation at places as far distant as Kalyan (33 miles). To meet this outward movement, the railway has arranged an excellent local train-service, which during the last nine years has been increased by roughly 13 extra trains a day, and to further the comfort of passengers the old-fashioned four-wheel coaches, as in the case of the mail and express trains, have been replaced by modern bogie-carriages and vestibule-cars.

The following table shows the number of passengers daily conveyed between Victoria terminus and Dadar, Sion, Thana and Kalyan since 1870:—

Between		Number of Daily Passengers.				
Station.	Station.	1870	1880	1890	1900	1908
Victoria terminus.	Dadar ...	37	32	672	1,391	1,142
	Sion	...	25	221	477	441
	Thana ...	160	223	966	1,416	1,376
	Kalyan ...	71	88	582	919	1,051
	Total ...	268	368	2,441	4,203	4,010

In several matters other than the amelioration of the comfort and convenience of the travelling public has the Great Indian Peninsula Railway Company evinced a spirit of progress. Among these may be mentioned the introduction during recent years of special trains which daily convey the sweepings and garbage of the city to Chembur, situated about ten miles away. These trains run twice daily from the Mahalakshmi station on the Bombay, Baroda and Central India Railway, traverse the Great Indian Peninsula line at Dadar Junction, and branch off to Chembur from Kurla, the first station outside the limits of Bombay.

The total number of employés, both European and Native, amounts to 70,000. For the benefit of its staff, the Company established a Provident Fund in 1867 and a Mutual Assurance Fund in 1870, both of which are in a flourishing condition. Three times only during the history of the Railway have strikes taken place in consequence of actual or fancied grievances; the first being the guards' strike of January, 1897, which was due to the withdrawal, on the score of economy, of perquisites of long standing, and which practically put a stop to all traffic for three days; the second being the signallers' strike of May, 1899, which was generally regarded as the outcome of semi-political intrigue; and the third a strike of the native staff of the railway workshops in January 1908, for increased pay. Taken as a whole, the Great Indian Peninsula Railway presents the spectacle of a huge and in many respects remarkable organization. For in addition to what may be considered the ordinary work of a railway, namely, the running of trains, the up-keep of the line and rolling-stock, and the close supervision of crop-prospects and commercial phenomena, it maintains a telegraph department and an efficient volunteer corps. It largely supplies its own police and maintains a large medical staff with numerous hospitals and dispensaries; while it also provides chaplains at large stations, and has opened many primary schools for the children of its employés, together with well-equipped institutes and recreation-grounds and a large circulating library. It has indeed successfully lived up to its motto of *Arte non Ense*.

The Bombay, Baroda and Central India Railway.[1]

The Bombay, Baroda and Central India Railway Company was incorporated by an Act of Parliament, dated 2nd July 1855, and on the 21st November in that year concluded with the East India Company a contract for the construction of a line of railway from Surat to Baroda and Ahmedabad. On the 2nd February 1859 a further contract with the Secretary of State for India was entered into for the construction of a line southwards

[1] This account was contributed by the Agent, B. B. and C. I. Railway.

from Surat to Bombay. The extension of the line from Ahmedabad to Viramgaum and Wadhwan was provided for in a contract, dated 17th November 1871, and the construction of a branch line from Anand to Dakor and the extension thereof to Sevalia and Godhra were provided for in a contract of the 14th May 1886.

The contracts were current for a period of 99 years from 1855; but Government had the option of determining the contracts by purchase after the expiry of 25 or 50 years of the term, *i.e.*, in 1880 or 1905 at the mean market value of the shares during the three preceding years, possession being taken of the railway at the half-yearly day next but one following the notice. Government did not exercise their right to determine the contracts until the year 1905, when after taking possession of the line they entrusted its working to a new Company on the following terms :—

(i) That the Company shall be reconstituted with a capital of £2,000,000 on which interest at 3 per cent. shall be guaranteed, and which shall be repayable at par at the end of the contract. Capital stock to this amount was to be accepted by the Company in lieu of £2,000,000 of the purchase price payable by the Secretary of State under existing contracts on acquiring the line.

(ii) That funds required for capital expenditure after the date of reconstitution shall be provided at the Secretary of State's option, either by him at such rate of interest as may be agreed upon between him and the Company, or by the issue of further capital stock, of debenture stock, or of debenture bonds on such terms as may be sanctioned by him.

(iii) That the Company shall take over the working of the present Company's broad-gauge lines, together with the present contracts of the subsidiary broad-gauge lines now worked by the Company.

(iv) That, until the Nagda-Muttra line is open, or till such subsequent time as the Secretary of

State may determine, it shall also work the Rajputana-Malwa and other metre-gauge lines now worked by the present Company.

(v) That, in addition to the 3 per cent. above mentioned, the Company shall receive 1/10th (reducible as shown in the margin) of the excess of the net earnings of the Bombay, Baroda and Central India and Rajputana-Malwa lines (exclusive of lines worked for Native States or other Companies) over (*a*) 200 lakhs a year, and (*b*) the interest charges in respect of additional capital provided after purchase; and that, if the Rajputana-Malwa line is taken away, the same conditions shall hold, except that the earnings of that line shall be omitted from the calculation, and that 70 lakhs shall be substituted for 200 lakhs.

Company to receive—
1/10th of surplus over (*a*) and (*b*) up to the amount necessary to provide ½ per cent. on the Company's Capital.
1/15th of any further surplus over (*a*) and (*b*).

(vi) That for the three years ending 1908, the Secretary of State guarantees that the supplemental dividend in excess of 3 per cent. shall not be less than ½ per cent.

(vii) That when the Nagda-Muttra and Sind-Bombay lines are built, if it is desired to entrust the working of either or both these lines to the Company, special arrangements shall be made with the Company for the purpose.

(viii) That the term of the contract shall be for 25 years, and thereafter shall be terminable at intervals of 5 years, on 12 months' notice on either side.

The Bombay, Baroda and Central India Railway proper extends from Bombay to Wadhwan and runs nearly due north from Bombay, skirting the coast for about 200 miles of its length. After leaving Ahmedabad, the line runs nearly due west to Viramgam, after which it curves south-west to Wadhwan, where it connects with the Bhavnagar-Gondal, the Morvi, and the Dhrangadra railways. The Railway has three branches, *viz.*, from

Viramgam to Kharaghoda (on the Rann of Cutch), 22·12 miles (known as the Patri Branch); from Anand to Godhra, 49·21 miles (known as the Godhra Branch); and from Baroda to Godhra 43·67 miles (known as the Baroda-Godhra Chord). The Patri Branch was constructed by the Bombay, Baroda & Central India Railway Company from State funds.

The whole of the line was originally constructed on the broad-gauge (5′-6″), but the section from Viramgam to Wadhwan was converted to the metre-gauge ($3'$-$3\frac{3}{8}''$) in the year 1901, in order to provide through communication on the metre-gauge between Rajputana and Kathiawar.

The work of constructing the Bombay, Baroda & Central India Railway was commenced in May 1856, and the first section from Amroli to Ankleshwar, $28\frac{3}{4}$ miles, was opened in February 1860. In January 1861, $43\frac{3}{4}$ miles were opened from Baroda to the south, and, before the end of the year, communication between Bulsar and Baroda (123 miles) was established. This line was not connected with Bombay until November 1864, when the main line to Ahmadabad may be said to have been completed. The whole line from Bombay (Colaba) to Wadhwan was opened throughout in 1872. The Rajputana-Malwa Railway, effects a junction with the Bombay, Baroda & Central India Railway at Ahmadabad, and the Mehsana-Viramgam metre-gauge line effects a junction at Viramgam. The Patri-Godhra Branches and the Baroda-Godhra Chord were opened throughout their entire lengths in May 1873, February 1882, and February 1904, respectively.

The open mileage amounts to 504·35 miles, which may be divided into 389·35 miles of main line and 115 miles of branches. 251·90 miles are double line.[1] The mean-mileage of the railway for successive decades from 1865 to 1905 was 420·13, 445·81, 460·90 and 469·68, respectively. The capital outlay per open mile for the same periods was approximately in thousands of rupees:—191, $191\frac{1}{2}$, 207 and 246, while the net earnings

[1] For details of construction, see Administration Report of the B. B. & C. I. Railway for 1904.

per mile per week were Rs. 130, Rs. 223, Rs. 353 and Rs. 360. Commencing with the second half of 1869 the number of passengers carried was 969,759, the earnings therefrom being a little more than 9 lakhs, and the number increased steadily until the total for a period of 6½ years ending in 1875 amounted to 22,209,254 representing earnings of nearly 142 lakhs. During the following decade the number of passengers rose to 74,640,990; between 1885 and 1895 to 139,741,431; and between 1895 and 1905 to 171,812,250.

The following table shows the tonnage of goods carried and receipts therefrom at different periods between 1875 and 1908:—

Period.	Tonnage.	Receipts.
		Rs.
6½ years ending 1875 ...	1,980,563	2,09,45,151
10 ,, ,, 1885 ...	8,015,752	6,15,71,147
10 ,, ,, 1895 ...	13,616,655	937,46,944
10 ,, ,, 1905 ...	17,926,328	10,95,83,996
3 ,, ,, 1908 ...	7,241,781	37,528,865

The following statement shows the earnings of the Company at quinquennial intervals since 1880:—

Year.	Mileage.	Earnings in lakhs of rupees.	
		Gross.	Net.
1880	444	82	47
1885	461	131	74
1890	461	129	74
1895	461	176	109
1900	461	176	82
1905	504	194	109
1908	504	204	98

Considerable changes in the rates for the conveyance of passengers and goods have been made since the Company first commenced work. Up to the end of 1868 the 1st class fares were 18 to 15 pies per mile; 2nd class, 9 to 7 pies per mile; 3rd class, 4 pies per mile; and 4th

class (by other than mail trains) 3 pies per mile. Alterations were made in 1878 and 1888, and finally in 1907 the following reduced scale of passenger fares was adopted :—

Class.		Rate per mile.
1st	...	12 pies.
2nd	...	6 pies.
Intermediate	...	3 pies for first 300 miles and thereafter 2 pies.
3rd	...	2½ pies for 200 miles, and thereafter 1¾ pies.

The charges for goods were those in general use in Western India upto the year 1880, when a reduction was introduced. Three years later a sliding scale applicable to both gauges was framed for grain and seeds, and on the occasion of the three famines, which occurred between 1890 and 1905, special rates were adopted to afford relief. Finally in 1906 a further reduction for both ordinary goods and goods of a special class was brought into force on the Company's system and on the Rajputana-Malwa railway.

The average number of passengers conveyed and the average tonnage of goods carried to and from Bombay City from 1885 to 1908 are shown in the following table :—

—	1885.	1890.	1895	1900.	1905.	1908.
Passengers booked from stations in Bombay City—						
1st half ..	*a*	2,792,428	2,885,882	2,915,019	3,465,926	4,455,698
2nd half..	2,083,368	2,804,934	3,032,388	2,804,911*b*	3,581,634	4,405,193
Passengers booked to stations in Bombay City—						
1st half ..	*a*	*a*	*a*	1,654,760	3,376,812	4,278,775
2nd half..	1,990,147	*a*	*a*	1,554,452*b*	3,521,551	4,271,394
Tons of goods booked from stations in Bombay City—						
1st half	*a*	117,887	171,601	433,691*c*	175,403	289,807
2nd half..	79,678	86,689	111,016	283,532*c*	195,835	177,069
Tons of goods booked to stations in Bombay City—						
1st half ..	*a*	*a*	*a*	104,705*c*	378,625	390,705
2nd half..	222,896	*a*	122,205	82,856*c*	255,815	287,560

a Statistics not available.
b For stations between Colaba and Grant Road.
c For stations Carnac Bridge, Colaba and Grant Road.

The Railway has ten stations within the limits of Bombay island exclusive of the terminus (Colaba),[1] *viz.*, (1) Church Gate, (2) Marine Lines, (3) Charni Road, (4) Grant Road, (5) Mahaluxmi, (6) Lower Parel, (7) Elphinstone Road, (8) Dadar, (9) Matunga Road and (10) Mahim. Between these stations, a very large number of persons travel daily to their respective places of business, &c., and to suit their convenience, a great many trains are run every day between Colaba and Mahim at short intervals of time and at shorter intervals before and after business hours. The Railway has running powers over the Great Indian Peninsula Railway Company's system from Dadar Junction to Carnac Bridge (3·39 miles) for goods trains only.

The Bombay, Baroda and Central India Railway Company has workshops at Parel in Bombay city and at Ajmer, manned by a large number of operatives who are employed in fitting up locomotives, building carriages and wagons and carrying out general repairs. The metre-gauge carriages for the royal train, on the occasion of the visit to India in 1905-06 of T. R. H. the Prince and Princess of Wales, were made at Ajmer. The total number of European and Native employès of the Company is 16,830. A provident fund, which is on a sound financial footing, was established for their benefit in 1872. The railway maintains a medical department, with a Chief Medical Officer in Bombay and two medical officers at Bandikui and Mount Abu, aided by a large staff of European and Native assistant surgeons and hospital assistants. It also supports a telegraph department and a corps of volunteers and has provided day schools for the children of its employès. Children whose parents are obliged to send them to schools other than railway schools are allowed a grant towards the expenses of their education. Institutes, to which are attached libraries and recreation-grounds, are maintained at most of the larger stations on the Company's system.

ort Rail-

This scheme was first proposed by the Port Trustees in 1894. It originated in the difficulties experienced owing

[1] Colaba Station was opened on 6th April 1896.

to the extremely defective arrangements for connections between the railway lines and the dock berths. The G. I. P. Railway goods terminus at Wadi Bunder immediately contiguous to the docks is aligned at right angles to the lines of sidings serving the dock berths ; the B. B. & C. I. terminus is on the other side of the Frere road and can connect with the dock berths only by running over a portion of the G. I. P. Railway. Goods intended for export, brought by either line, have to be first carted from the goods terminus to the owner's godown, then unloaded and thereafter re-loaded and carted to the dock berths, a process involving the expense of double handling, which constitutes a permanent and not inconsiderable charge on the trade. In the case of cotton the railborne inward traffic by both lines is carried to Colaba, whence it has to be conveyed to the docks by cart or lighter or to the mills by cart. It was argued that this state of things could be entirely obviated by the construction of a new branch railway taking off from the G. I. P. Railway at Sion on the north of the island with a subsidiary branch, taking off from the B. B. & C. I. Railway at Mahim ; that this branch would, for a considerable part of its length, be on Port Trust land and would run along the whole of the foreshore and through the existing docks and the future extension thereof parallel to, instead of at right angles to, the majority of the loading berths, and that by locating a new goods depôt on this line with sheds and storage space to be rented to merchants, into which produce for export could be unloaded direct from the railway wagons and thereafter reloaded into trucks and railed to the dock berths for shipment, the expense and loss involved in double handling and a large part of the cost of cartage would be saved. The depôts would also hold a more central position with reference to the industrial area. The project in the first instance met with some opposition, and in 1900 it was referred to a Commission for enquiry. This Commission considered that the necessity for the line was established, and their recommendation was accepted by the Government of India and Secretary of State.

The line is now in course of construction. It is in two sections—of which the first is "The G. I. P. Railway Harbour Branch" line extending from Kurla to the Mazagon depôt with a chord connection to the B. B. & C. I. Railway, a total length of 8·13 miles of double line on the 5′-6″ gauge, which is being made at the expense of, and is to be worked by, the G. I. P. Railway Company. The Port Trust section extends from the Mazagon depôt to the docks, a length of 3 miles. It involves the purchase of private properties for a length of about ½ mile, which intervene between the docks and the Trustees' properties to the north.

When finished, the line will offer suitable accommodation for the increasing trade of the port by affording greater facilities for the convenient shipment of produce. It will also develop a most important suburb and make considerable areas of land available for residential and other purposes which now lie unoccupied for want of easy means of communication with the business parts of the city, and will thus assist in relieving the congestion of population in the city of Bombay. As part of these proposals the G. I. P. Railway goods yard at Wadi Bandar is to be entirely remodelled. The portion east of the Frere road will be made over to the Trustees, in exchange for a certain area west of that road for remodelling the yard and for certain land to be provided by them for a railway stores yard by further reclamations of the foreshore between Mazagon and Sewri.

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The Bombay Tramway was originally projected in 1864 by Messrs. Stearns and Kittredge, on the joint-stock principle, and articles of agreement between the Municipality and the grantees were duly executed in February 1865. But like many other schemes devised for the improvement of the city that of the tramway had to be shelved owing to the financial difficulties which had overtaken Bombay. In October 1870 the proposal for a horse-tramway was revived by Messrs. Stearns, Hobart and Co. who offered to form a company with sufficient capital to carry out the concession made to them in 1865, but as it appeared that that agreement had been entered into by the then Municipal Commissioners

ultra vires the whole question was submitted to the Bench of Justices, a select committee of which body recommended that tramways should be laid down, if possible by the Municipality. Messrs. Lawrence and Company and one or two other persons entered the field as competitors, and offered to undertake the laying and working of the tracks; but at a meeting of the Corporation, held in April 1872, it was decided to advertise for tenders in the local and London papers. Eventually the tender of the original promoters of the scheme was accepted and on the 6th March 1873 sanction was given to a contract with Messrs. Stearns and Kittredge, the principal conditions of which were that the agreement should remain in force for twenty-one years from the 12th March 1873, at the end of which period the Municipality would have the right of purchasing the whole concern, on paying the grantees the *bonâ fide* value, plus compensation for good will and so forth, equal to 21 years' purchase, calculated on the average profits of the previous three years. The agreement was renewed by the Municipality in 1894. For these valuable concessions the Company paid a rental of Rs. 3,000 per mile for double and Rs. 2,000 per mile for single tracks. The administrative offices of the Company and the principal stables were at Colaba, and another large stable was maintained at Byculla, opposite the Victoria Gardens. The number of horses owned by the Company was nearly 900.

At the outset it was found impossible to get the capital of the Company subscribed in Bombay and it was ultimately obtained from a New York syndicate. For a period of ten years the Company paid no dividends, its profits being sunk in the extension of the property; but at the end of that period the Company was reconstructed with an expanded capital, the shareholders receiving shares and debentures in the new Company on terms which compensated them for the profits they bad foregone. In 1899 the Company applied to the Municipality for permission to electrify the tramway. This was refused pending the advent of the next option of Municipal purchase which did not arise until March 1901. The Com-

pany having declined to accept the terms, in substitution of its original concession, upon which alone the Corporation expressed its willingness to leave it in possession of the tramways, the Municipality served it with a notice of its intention to buy it out. Upon this notice a lengthy litigation arose between the Municipal Corporation and the Company which was eventually settled by mutual agreement in 1905. The old Company which had for some time been paying dividends at the rate of 12% received a sum of £656,000 for its property and goodwill.

The new Company under the name of the Bombay Electric Supply and Tramways Company promoted by the new concessionaires, and registered in London, started its career on the 2nd of August 1905. The enterprise as thus remodelled combines electric traction with electric light and power supply. The capital of the new concern is £1,950,000, divided into £600,000 of 4½% debentures, £150,000 5% second debentures, £600,000 6% preference shares, and £600,000 of ordinary shares. Continuous electric supply was commenced by the Company in November 1905, and the first electric cars were put upon the road in May 1907. The line has at present (1909) been extended to cover 20 miles of street, all of which is operated by the trolley overhead system of electrical propulsion. 162 cars are to be placed upon this mileage of which 100 cars are run on two bogie trucks, and 62 cars on a single truck. The former provide seating accommodation for 52 passengers, and the latter for 32 passengers. It is a condition of the Concession that on the 17¼ miles of track acquired from the old Company a uniform fare of one anna from any one point to any other point shall be maintained. In 1906 the Company carried some twenty-five million passengers. The Company's power house is situated at Wadi Bandar and it has several sub-stations for converting purposes, the most important of which is located in Princess street. The number of electrical units sold for lighting and power purposes in 1908 was 5,263,630.

Under the concession granted to the Company by the Municipality the latter has the option of purchasing the

undertaking at the end of 42 years on payment of the then *boná-fide* value of the property, regard being had to purposes to which it has been adapted with an addition of Rs. 40,00,000 for the goodwill; a second option of purchase on expiration of 56 years when the goodwill is reduced to Rs. 20,00,000 and a further option of purchase at the end of 63 years without any payment for goodwill. If the right of purchase be not exercised at the end of 63 years it may be exercised at the end of any subsequent period of 7 years. The Company pays to the Municipality track rent at the rate of Rs. 3,000 (three thousand) per annum per mile of double track and Rs. 2,000 (two thousand) per annum per mile of single track in respect of the tramways taken over from the old Bombay Tramway Company. In respect of any extensions of the old track the Municipal rent is reduced by 50 per cent.

Roads.

The roads and streets of Bombay at the commencement of the 19th century were for the most part extremely narrow and were constantly being encroached upon by house-owners. This led in 1806 to the issue of a Government order in which the Governor-in-Council directed that Parel road and Breach Candy road (Girgaum road) should be gradually widened to sixty feet, Sheik Memon and Dongri streets to forty feet and all other public streets to 30 feet. All roads branching off the Parel and Breach Candy roads were to be forty feet wide and all cross streets were to be not less than twenty feet wide.[1] This order was followed six years later by Rule, Ordinance and Regulation III of 1812, which pointed out that the roads throughout the island and the streets, lanes and passages within the Fort were "extremely narrow and incommodious for carriages and passengers," and ordered (Article I) that "the main street through the bazaar should be enlarged to the breadth of 40 feet from house to house; Moody's street should be enlarged to the breadth of 35 feet; Bora's street shall be enlarged to the breadth of 25 feet; and all cross streets within the Fort should be of the breadth

[1] Bombay Courier, 24th October, 1807.

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Roads.

[1] Bombay Courier, 24th October, 1807.

of 16 feet."[1] Article II laid down that all the streets comprised in the area of the great fire of 1803 should be 60 feet wide; while Article III enacted that "the great roads through the island, commonly called the Parel road and Breach Candy road respectively, shall be enlarged to the breadth of 60 feet each, and that the roads or streets commonly called Sheik Memon and Dungaree shall be in like manner enlarged to the breadth of 40 feet each, and that all other principal streets without the walls of the Fort and within the island of Bombay be made of the breadth of 30 feet; that all roads branching from either of the greater roads aforesaid be made of the breadth of 40 feet, and all lanes, cross streets and passages, now hereafter to be made without the said walls, be of the breadth of 20 feet clear from house to house, and not less."[2]

These orders were apparently productive of good; for Major-General Sir John Malcolm writing of Bombay between 1827 and 1830 remarked that admirable roads had been formed throughout the island of Bombay, the streets of the native town had been widened and a communication by a causeway with Salsette much increased in width. He further referred to "an excellent road made to Malabar Point, the temporary bungalows at which have been made permanent, so as to afford excellent accommodation for the Governor."[3] Another new road constructed about this date was one to Sewri, which was much frequented as a country drive.[4] The main thoroughfares were also kept in good condition and were described in 1832 as "beautifully macadamized"[5] and in 1838 as "watered, tolerably lighted,

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[1] Bombay Regulations 1799-1816, pp. 344—352.

[2] In 1808 a special officer styled Surveyor of Roads was appointed. Before this, the office was combined with that of the Superintendent of Police, and Government paid part of the expenses of the repairs of roads. In 1809 Government advanced the Board Rs. 12,000 for repairs of road.

[3] The Government of India by Malcolm, 1833. The construction of a road to Malabar Point enabled the Governor to make over his old residence in the Fort, which had not been regularly used for many years, to the Secretaries to Government.

[4] Bombay Courier, 12th March, 1825.

[5] Hall's Voyages, p. 7.

clean, and void of all offence."[1] On the 1st October 1839 Grant road "from the obelisk to the garden-house of Jagannath Shankar Sett at Girgaum" was thrown open to the public, and was described as requiring a parapet-wall on either side owing to its great elevation above the adjoining lands.[2] As the population increased and the town expanded the public view regarding the suitability of the island's communications underwent alteration. The streets in the native town were described in 1845 as "very narrow,"[3] and the road along the line of the present Rampart and Hornby roads, which was regarded in 1850 as a fashionable thoroughfare, would rank in these days as "little better than a narrow lane."[4] The decade 1860 to 1870 marks the point at which the broad modern thoroughfares of the island were planned and commenced. An "eastern boulevard" from Elphinstone Circle to Bazaar Gate and a Foras road from the Victoria Gardens to Mahalakshmi were completed in 1868; Apollo street was widened and a hundred-foot road from Bazaar Gate to the native town was commenced in the same year; a new road from Babula Tank to the Elphinstone Overbridge, the Bellasis road, Gilder street and several other well known thoroughfares were completed about the same date. In all some 35 big roads were either newly constructed or converted from old narrow tracks during the ten years above-mentioned, and many of these were 80 feet in width and were provided with broad footpaths bordered with trees.[5] Ripon road, Fergusson road and a widened Girgaum road were under construction in 1884-85.

In 1887 the total mileage of the roads in charge of the Municipality was $136\frac{1}{2}$ miles, which rose to $147\frac{3}{4}$ miles in 1897 and is now (1907) $156\frac{3}{4}$ miles. Since the establishment in 1898 of the City Improvement Trust, one of the duties of which is to open new roads

[1] Postans' Western India, p. 75, I.

[2] Bombay Times, October 19th, 1839.

[3] Von Orlich's Travels, I.

[4] Times of India, 26th October 1901.

[5] A complete list of these roads is given in "Maclean's Guide to Bombay" (revised to 1900), pp. 206, 207.

through thickly-populated areas, Municipal activities have fallen somewhat into abeyance as regards schemes for new thoroughfares. A few minor road schemes, such as those in Colaba village, Chandanwadi, Cavel, Hamalwadi, Piru lane, etc., have been put into execution, and a certain amount of road-widening and road-improvement has been completed out of funds provided by the Corporation. Two of the most useful roads recently constructed are Princess street and Sandhurst road which afford direct communication from east to west. Hughes road has proved a boon to the residents of Malabar and Cumballa hills.

The process of constructing a new road is briefly as follows. The centre line of the proposed road is lined out according to the given direction. The raised portions of ground are cut and lowered and the hollows are filled up by consolidated layers of murum each 6″ in thickness, till the even formation level is obtained throughout the entire length of the proposed road according to the required gradients and levels. Sudden rises and falls are avoided as far as possible. After the formation road surface is thus prepared by the necessary cuttings or embankments, a 9″ bedding is made of rubble stones, carefully hand packed, and upon this a layer of road metal 9″ in thickness is uniformly spread in two layers and consolidated by means of a steam roller to a camber of about 1 in 40 from the centre of the road to its sides. The sides of the road are protected from damage with watertables and set stone vertically embedded in the ground, along the edges of the road. A layer of sandstone 1″ in thickness is then spread over the consolidated metal and the surface of the roadway is completed by a thin layer of sand. During the progress of the work the surface is thoroughly watered from time to time, and the consolidation is effected by means of steam rollers as far as possible, hand or bullock rollers being employed according to the nature and extent of work when steam rollers[1] are for any reason undesirable. The surface of the completed road-way presents a neat barrel-

[1] Steam rollers were first introduced in Bombay in 1869. The first was too heavy for the roads, and had to be used with great caution.

shaped appearance. It is kept sufficiently moist for a few subsequent days to assist the settlement of the materials under the traffic. Repairs are also effected by covering it with a thin layer of sandstone from time to time to protect it from irregular wear and the damage due to the dripping of rain from the trees. The repair of existing roads consists of breaking up the worn-out surface to a depth of 2 or 3 inches by means of pickaxes or a "scarifier" drawn by a steam roller. The excavated material thus obtained is screened, the larger pieces of the old metal are re-spread and over the surface so formed a covering of new metal, 3 or 4 inches in thickness, is laid. The road is then watered, rolled and finished off in the same manner as a new road. For repairs of small area hand-rammers are used instead of rollers.

The metal used in road-making and repairing is the blue trap from the local quarries, those on the eastern side of the island furnishing the best quality. The trap is broken into 2-inch cubes. The sandstone is obtained from the vicinity of the island and consists of grains of quartz mixed with a small percentage of shells cemented into masses by the infiltration of lime. The sand used is black and is obtained from the creeks lying near Bombay harbour. The quantity of materials used annually in road-making varies, but usually approximates to 13,000 "brass" of metal, 3,500 "brass" of sand and 800 "brass" of sandstone, which together cost about one lakh of rupees. The materials are supplied by contractors and the work of road repair is carried on departmentally by the Executive Engineer's road department. The total annual cost of maintaining the public roads in the city is about 4 lakhs, which is defrayed from general revenue and taxes.

The only portions of road in Bombay in charge of Government are the Mahim Causeway and the Sion Causeway.[1] The Mahim Causeway was commenced on

[1] These two causeways and the G. I. P. Railway embankment, built in 1852, blocked up the passage of the tidal waters, and their free access was further checked by the embankment between Mahim and Bandra. In consequence the sea has somewhat encroached upon the Mahim side of the Bay.

the 8th February 1843 under the auspices of Lady Jamsetjee Jejeebhoy who contributed 1·56 lakhs towards the cost of it. It was designed by Lieutenant Crawford and constructed by Capain Cruickshank of the Bombay Engineers and was opened to the public on the 8th April 1845 in the presence of Sir George Arthur, then Governor of Bombay, and the members of his Council. The total cost of this Causeway was Rs. 2,03,843. It is 3,558 feet in length. The Sion Causeway was commenced in May 1798, and was completed in January 1805, during the administration of the Honourable Mr. Jonathan Duncan. It cost Rs. 50,374. In 1826 during the administration of Mr. Mountstuart Elphinstone it was doubled in width and otherwise improved at a cost of Rs. 40,000. This Causeway was originally built under the direction of Captain W. Brook of the Engineers and the additions and improvements were carried out in 1826 by Captain W. A. Tate of the same Corps.[1] The Sion Causeway is 5,751 feet in length.

Road-watering in Bombay is performed by *bhistis*, by watering-carts drawn by bullocks, and from the public hydrants. In past years salt-water was occasionally resorted to, but was relinquished in consequence of complaints of its corroding and efflorescing qualities. Fresh water from the Vehar, Tulsi and Tansa supplies only is now used. The principal roads are watered twice and occasionally three or four times during the day. The minor roads are watered once only and in some cases on alternate days. Excluding the cost of the water, the cost of the watering-staff is about Rs. 21,000 a year, the total cost including the supply of bullocks by contract being Rs. 62,500. During the last three years experiments in laying dust with petroleum have been made, which have proved fairly successful.

The total length of footpaths in the city is about 80 miles, of which 46 miles are roughly gravelled, 28 miles are stone-paved, 6½ are cement-paved and half a mile is

[1] In December, 1905, it was decided that the northern boundary of the island of Bombay should be the centre point of the Sion Causeway on the Kurla side and the centre points of the B. B. & C. I. Railway and the Lady Jamsetji Bridges on the Bandora side. (*Vide* Government Resolution, Revenue Department, 9888 of 6th December 1905.)

paved with asphalt. Stone-paved footpaths have so far proved the most successful, as repairs to other kinds are never satisfactory. The minimum and maximum widths of the footpaths in the city are 2 feet and 28 feet. In the majority of cases they vary in width from 8 to 15 feet. The chief paths used by the public for recreation are those at the Apollo Bandar, at Chaupati, at Warden road, the Hornby Vellard, Wodehouse Bridge and opposite the hanging gardens on Malabar Hill. The bulk of the people in the city evince a natural predilection for walking in the road and make comparatively little use of the footpaths.

A table giving particulars of the chief bridges now existing in the island of Bombay is given in Appendix I at the end of the chapter. The construction of several more is at present under contemplation.

Public Conveyances.

The public conveyances of Bombay City have been greatly improved during the last hundred years. In old days the commonest forms of conveyance were the bullock-hackery and the palanquin. When Admiral Watson arrived in Bombay, palanquins were placed at the disposal of his suite by Government, while he himself was accommodated with a hackery "drawn by bullocks of uncommon speed and endurance". "The vehicle had no resemblance to those neat carts of painted wood and cane work, with springs and patent axles which are now manufactured for European comfort in the mofussil, but was a contracted canopy of cloth on wheels, such as the humbler class of Banians use. In this the distinguished visitor crouched, as his cattle jogged along, now in a trot and again in a short jerking gallop, at the rate of seven or eight miles an hour. He tucked up his legs as best he could, to keep them out of harm's way; but after all his pains they were more or less bespattered with filth."[1] The palanquin

[1] Bombay Quarterly Review (1857) IX, 163. By the commencement of the 19th century the use of bullock-carts by Europeans had practically died out. Fontanier (Voyage dans l'Inde) writing in 1835 states: "Employés publics, chefs d'administration, marchants, officiers et marins, tous se précipitent à cheval, en voiture on en palanquin ; puis on voit venir de longues files de charrettes trainées par des bœufs aux cornes peintes, couronnées de fleurs et contenant des familles entieres. Tel est l'équipage de la plupart des naturels."

was in vogue until the close of the first quarter of the 19th century and was thus described by a traveller [1] in 1809 :—"On the new bunder or pier we found palankeens waiting to convey us from the shore. These palankeens are litters in which one may either lie down or sit upright, with windows and sliding doors ; the modern ones are little carriages without wheels. Those anciently used were of different form and consisted of a bed or sofa, over which was an arch just high enough to admit of sitting upright ; it was decorated with gold or silver bells and fringes, and had a curtain to draw occasionally over the whole. The palanqueen-bearers are here called hamauls ; they for the most part wear nothing but a turban and a cloth wrapped round the loins. These people come chiefly from the Mahratta country and are of the Coombee or agricultural caste. Their wages are seven or eight rupees a month."

Apparently horse-conveyances began to take the place of bullock-recklas and palanquins during the opening years of the 19th century. In 1807 for example among the public vehicles taxed were "chariots, coaches, phætons and the buggies of Europeans and Natives" and "single-horse pleasure hankries" [2] ; while in 1819 a firm of "architects and coachmakers" put an advertisement in the local press to the effect that they were prepared to supply a limited number of carriages for use in Bombay and Salsette at rates varying from Rs. 2 to Rs. 10 per diem. [3] They further stated that if they met with public support they would run a daily stage coach from the Fort to Sion, which would prove "a great convenience to gentlemen residing on the Byculla and Parel roads." By the middle of the 19th century the chief kind of public conveyance was "the buggy," described as a two-wheeled vehicle in which the passenger had to sit beside the driver, as awkward to get in and

1 Maria Graham's Journal of a Short Residence in India, 1813. A palanquin was used by Mr. Little, the Government Solicitor, to go to and from the High Court in 1894.

2 Michael's History of the Corporation, 354.

3 Bombay Courier, March 27th, 1819.

out of, and as resembling the body of a victoria without the driver's seat.[1] Antediluvian specimens of this class are sometimes still used for training horses. They resemble the curricles of Regency days. The fare payable for the use of these somewhat uncomfortable vehicles was 4 annas per mile.[2] In 1881 four hansom-cabs[3] were introduced into Bombay, but apparently failed to meet with public approval, any more than did an omnibus of the English pattern which commenced running between Malabar Hill and the Fort in December, 1871.[4] The buggy was eventually supplanted by the shigram which was introduced in 1863,[5] and by the victoria, which was introduced by a resident called Webber in 1882.

The conveyances now (1909) plying for hire in the city are the victoria, the bullock-reckla with an entrance from behind, which was introduced about 1893, the bullock-reckla with an entrance in front, which was in existence in 1800, and the ordinary labour-cart. Taxi-cabs are shortly to be introduced. Victorias are mostly owned by the class of Musalmans known locally as *chilli-chors*, though some belong to Gujarat Banias and Parsis; Musalmans and Bhandaris own most of the recklas; while out of about 8,500 labour carts in the city, 480 are owned by the seven principal carting-agents and the rest belong to Deccan Hindus, Banias, Lohanas and Musalmans. The carting-agents of the city as a rule own only the carts and obtain the bullocks on hire from Deccan Hindus (Ghatis) and others. The victoria-drivers and others hire their conveyances for the day from one of several owners of such conveyances; and the average income of the latter varies from Rs. 500 to Rs. 625 per annum in the case of a victoria, and from Rs. 70 to 90 in the case of a reckla or labour cart. The licensing

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[1] Times of India of 4th January 1897. A general strike of buggy drivers occurred in 1859 and in 1866.

[2] Bombay Times of 8th February 1861.

[3] Times of India of 11th April 1881.

[4] Times of India of 27th November 1871.

[5] The Shigram has practically disappeared now. There is only one plying for hire at the present date (1909). A Parsi owns this vehicle. They are still used however by brokers as private vehicles.

of public conveyances devolves upon the Commissioner of Police under Bombay Act VI of 1863 which repealed India Act IV of 1841. The fares for public conveyances which were formerly fixed by the Court of Petty Sessions, are now fixed by the Commissioner of Police subject to the sanction of Government. The fares have recently (1909) been increased. The number of public conveyance stands in Bombay is 64.

The following table gives the number of licensed public conveyances in Bombay City at different periods since 1857 :—

Year.	Buggies.	Victorias.	Recklas.	Labour Carts.
1857	417	...	690	2762
1862	552	...	636	4769
1872	715	...	555	4816
1882 to 1898	Information not available.			
1899	...	857	206	7085
1902	...	995	198	6937
1908	...	1540	142	8498

The following table shows the actual income derived from the licensing of public conveyances during the last ten years :—

Year.	Income.	Year.	Income.
	Rs.		Rs.
1898—1899	13,356	1903—1904	16,550
1899—1900	11,359	1904—1905	15,791
1900—1901	13,008	1905—1906	17,254
1901—1902	12,259	1906—1907	16,727
1902—1903	14,371	1907—1908	16,480

The wheel-tax levied by the Municipality[1] under Act III of 1888 is fixed at Rs. 5 for each four-wheeled vehicle per quarter, Rs. 3 for each two-wheeled vehicle per quarter, Rs. 2 for each vehicle drawn or impelled other-

1 The wheel-tax collected by the Municipality since 1867 is shown on page 357 of Michael's History of the Corporation. In 1867 it amounted to 2·35 lakhs, in 1877 to 2·40 lakhs, in 1887-88 to 3·23 lakhs, in 1897-98 to 3·47 lakhs, and in 1907-08 to 4·30 lakhs.

wise than by animal power or machinery per quarter, Rs. 6 per quarter for each horse, pony or mule of a height of 12 hands and upwards, Rs. 2 per quarter for each horse, pony or mule of a height of less than 12 hands, Re. 1 per quarter for each bullock or buffalo kept for draught-purposes, and Re. 1 for each donkey kept for riding, draft or pack-purposes. In the case of victorias the Municipal taxes amount to Rs. 63 a year on each, in the case of recklas to Rs. 20 a year on each, and in the case of labour-carts to Rs. 15 a year on each. In addition to these taxes the owners of public conveyances have to pay small extra fees to the Commissioner of Police for the issue, transfer and replacement of licenses, badges, tin number-plates and fare-books.

The following table shows the number of private vehicles in Bombay and the amount of wheel-tax collected upon them since the year 1881 :—

Year.	Number of private vehicles that were in existence in the City of Bombay.						Amount of wheel-tax on private vehicles and animals collected by the Municipality.
	Four-wheeled vehicles	Two-wheeled vehicles.	Vehicles not drawn or impelled by Horses, &c.	Motor Cars.	Cycles.	Total.	Rs.
1881	2,081	414	...	...	...	2,495	...
1891-1892	3,454	816	165	...	...	4,435	...
1897-1899	...	...	...	...	...	...	1,64,378
1901-1902	3,363	734	435	1	1,575	6,108	...
1907-1908	4,165	1,212	889	281	900	7,447	2,19,671

Since the opening of the twentieth century the use of motor-cars has rapidly increased. The first motor-car seen in Bombay is variously stated to have been brought here in 1901—1902 and 1903; and the date of the first registration of a motor-car in the Police Commissioner's office was February the 20th, 1905. The number of cars registered in 1905 was 364; in 1906, 279; in 1907, 255; and in 1908, 127: and the total number registered up to date (1908) was 1,025. In 1906 motor vans were introduced and at the present time (1908) 4 motor lorries and 2 motor vans are in use in the city.

The working of public water-conveyances is regulated by Act VI of 1863, under which the control of these conveyances vests in the Port Officer. All boats licensed for this purpose are annually inspected by an officer of the Port Department, who sees that they are seaworthy and properly manned and that they carry the regulation lights. Each boat license contains the name of the tindal, the number of the crew to be carried, the regulation number of passengers, and the name of the particular bandar to which the boat is attached. In 1908-09 the number of boats licensed was 324, including 3 steam-launches, 2 bandar boats, 45 jolly boats, dingis and *machhvas*, and 274 *sambuks* and *tonis*. The commonest breaches of the rules, framed by the Port Officer and sanctioned by Government, are the running of the boat in charge of other than the authorized tindal, the carrying an excess number of passengers and the non-provision of the regulation crew. Prosecutions for offences of this character are instituted by the water-police.

he Post.
61—1800

As early as 1661 letters from London for the factories in Western India were despatched in duplicate *via* Leghorn, Marseilles and Aleppo, and answers to them were usually sent at intervals by any merchant-vessel that might be bound for an English port. But no attempt to establish any sort of inland post-office appears to have been made until 1688 when the Court of Directors desired the Council at Bombay to "erect a post-office for all letters to be brought to and delivered at, setting such rate upon each single letter and so proportionately upon double or treble letters as may in a few years bring in a vast revenue." The Directors added that land-*dâks* and passage-boats should be established to take such letters to Surat and other places, and that the office should be at first farmed out to "a discreet and powerful man," who ought to pay the Company for the contract not less than £400 or £500 a year.[1] In spite however of these orders and of a statement in a vernacular history of Bombay that postal arrangements were introduced into Bombay in 1694,[2] it seems unlikely that any special

[1] Court to Bombay. August 27th, 1688.
[2] *Mumbaiche Varnan*, by G. N. Rane, p. 224.

postal organization was evolved until about the middle of the eighteenth century. The first definite attempt to establish overland and inland communication dates back to the year 1787 when the Court of Directors appointed an agent in Egypt to supervise the interchange of despatches between England and India. On the 30th November every year one of the Company's armed cruisers left Calcutta with the Bengal correspondence, called at Madras and Bombay, and thence sailed to Suez, where the agent took charge of the mails and in due course despatched the cruiser back to India with the home letters. The cruiser carried private letters also, packed in separate tin-boxes, the route from Suez to England and *vice-versa* being by way of Alexandria and Leghorn. The same year (1787) also witnessed the appointment of a Postmaster at Bombay, for the purpose of organizing regular communication with Fort St. George, Madras. He received no salary from the Company, but apparently was remunerated by a percentage of the receipts accruing firstly from a delivery-fee of one anna charged upon every letter handed in at the post-office, and secondly from transmission-charges calculated for private correspondence on the following scale:—For a single letter, Rs. 2; double letter, Rs. 4; treble letter, Rs. 6. The charge upon parcels was 4 annas per oz. according to weight. The letters were carried to and fro by *kasids* or messengers, four pairs of whom were stationed at each of the Presidency towns; and once a fortnight one pair in turn set forth from either centre by way of Poona and Hyderabad, taking 25 days to complete the single journey.[1]

The next forward step was the establishment of a General Post Office for the Presidency under the superintendence of Mr. Charles Elphinstone in 1794. So far as letters for Bengal and Madras were concerned, the previous *dak*-system remained unchanged: but letters to and from other Presidencies, if conveyed by sea, were liable to pay the same postage as those from Europe and those to and from China, and the commanders of all

[1] Bombay Town and Island Materials II, 13—16.

country vessels were enjoined to receive no letters from Bengal and Madras except through the hands of the Postmaster. Messengers were employed to deliver letters throughout the town and collect a delivery-fee of 4 annas upon all letters from Europe, but no postage was charged upon letters to and from subordinate stations in the Presidency. Four years later, on the 1st January 1798, regular monthly communication between Bombay and England *via* the Persian Gulf was established, the mails being regularly despatched on the first day of every month. Individuals desiring to take the benefit of this service had to send their letters to the Secretary to Government with a note specifying the identity of the writer ; the writer had also to sign his name beneath the address, the envelope being countersigned by the Secretary before despatch ; no letter might exceed four inches in length, two inches in breadth, or be sealed with wax ; while on delivery of the letter to the Secretary postage had to be paid at the rate of Rs. 10 for a letter weighing ¼ of a tola, of Rs. 15 per ½ tola, and of Rs. 20 per tola. Letters intended for Basra, Bagdad, Aleppo and Constantinople were subject to the same regulations but paid smaller fees : and in order to ensure against loss most letters were despatched in duplicate, one copy being enclosed in a packet transmitted *via* Aleppo, the other in a corrresponding packet transmitted *via* Bagdad.[1]

-1906. The opening years of the nineteenth century witnessed further progress in inland postal arrangements. In 1825 a *Bangy* establishment was at work, consisting of 20 *hamals* or carriers, stationed in pairs at 10 different places between Bombay and Poona who carried the post in covered cane-baskets. The head-office in Bombay despatched the Poona post three times a week, *viz.*, Mondays, Wednesdays and Fridays, charging for newspapers, etc.,at the rate of 4 annas per 10 tolas, for parcels of less than 4 lbs. weight one rupee and 4 annas extra for every pound in excess of 4, and Rs. 8 for a whole *bangy* or mail weighing less than 30 lbs.[2] A daily *dâk* was opened in the same year between Bombay and

[1] Bombay Times, October 3rd, 1854.

[2] Bombay Courier, 26th March 1825.

Malegaon *via* Bhiwndi and Nasik and was thereafter used exclusively as the route for letters addressed to Mhow and Upper India [1]; while for the greater convenience of urban residents the first branch post-office in the island was opened in the house of the Junior Magistrate of Police at Byculla in 1832. [2] In 1849 the registration of letters containing bills, remittances and other valuables at a fee of eight annas was introduced [3], while from 1854 the postage-charges on newspapers and other printed matter were reduced to one anna. [4] One of the best-known residents of Bombay about the middle of the nineteenth century was Meherwandaru Postwala, who used to undertake the postage of letters for the public at a fee of one pice per letter. His office was on the verandah of his own house in Bazaar Gate street; and there he maintained a staff of clerks for the benefit of those who could not write their own letters. The prescribed weight for such letters was very small; and as excess weight was charged at the rate of 2 annas per packet, ordinary private correspondence was written in the minutest of handwriting and on the flimsiest paper. Meherwandaru undertook the task of collection and distribution of letters, not in Bombay only but throughout the Presidency, where he had established agents and branch-offices. In his day postage-stamps were unknown and most of the postal peons were Parsis [5]. In 1850 a Commission was appointed to report on the working of the post-office throughout India, and the result was the promulgation of Act XVII of 1854 (the Indian Postal Act) which marks the commencement of the organization of the inland post-office on its present footing. In 1856 the Bombay Government negotiated a contract for the conveyance of mails between Bombay and Karachi by steamer, the despatch taking place thrice

[1] Bombay Courier, 29th January 1825.

[2] Bombay Courier, 1st December 1832. In 1812 it appears that there was one delivery (Bombay Courier, 4th July 1812).

[3] Bombay Times, 17th October 1849.

[4] Bombay Times, 28th October 1854.

[5] Mr. K. N. Kabraji's Reminiscences, reprinted in Times of India 1901.

a month during the fair season and once a fortnight during the monsoon.[1] Apparently, however, the service was far from regular, and the withdrawal of the Bombay Steam Navigation Company's most efficient vessels for transport-service in the Persian Expedition of 1857 practically forced upon Government the abolition of the contract.[2] The Postal Act of 1854 was in due course repealed by Act XIV of 1866, under the terms of which the value payable and money-order systems were introduced into Bombay in 1880, and the prepayment of parcel-postage in cash instead of by postage-labels was initiated in the following year. Inland service-postcards were first issued in Bombay in 1881-82 ; the registration fee was also reduced from 4 annas to 2 annas ; and in 1882 a postal savings-bank was instituted. Finally the Act of 1866 was superseded by Act VI of 1898, which supplied certain defects and omissions in the previous Act, conferred extended protection and powers, and provided for postal insurance, the value-payable post, and the money-order system.[3]

rland *l,* 1800-

Meanwhile mail communication between Europe and Bombay had been steadily progressing. In 1825 the voyage was for the first time performed by steam, and lasted 113 days ; while in 1829 a new departure was announced in the shape of rules for the conveyance of overland packets in the Company's steamers *via* the Red Sea and the Isthmus of Suez. The postal charges on letters conveyed by this route were :—Rs. 4 for a letter weighing not more than one rupee, Rs. 8 for one weighing more than one but not more than two rupees, and Rs. 12 for one weighing more than two but not more than three rupees. No letter exceeding twenty rupees in weight could be received or despatched.[4] The project for regular steam communication by way of the Red Sea and Mediterrranean had been discussed for some time, and at the end of 1829 Waghorn, the pioneer of overland communication, left

[1] General Administration Report, 1855-56.

[2] General Administration Report, 1856-57.

[3] Imperial Gazetteer, India, Vol. III., Chap. VIII.

[4] Bombay Courier, 3rd October, 1829.

London on a tour of exploration and reached Bombay in 46 days by way of Trieste, Alexandria, Cosseir and Jeddah. Sir John Malcolm writing home in April, 1830, remarks :—"I do hope this steam navigation will be pushed through. It will make a revolution in many things to great advantage. Though I cannot understand that a scheme upon the scale Mr. T——proposes will answer at present, one of a more moderate nature could not fail ; and I must think that individual enterprize will do more in such a case than Government ever can. But should the jealousy of your Post Office in England regarding the Mediterranean, or the desire to keep the Red Sea navigation under our own control, lay a cold hand upon the projects of individuals, let us be supported in our efforts to maintain this intercourse in an efficient manner." Lack of official support however was not sufficient to deter the ardent and active Waghorn. By 1838 he had established regular monthly communication between Bombay and England, the mails being carried by steamers of the Indian Navy as far as Suez, thence by caravan to Cairo and Alexandria and from that point to Paris by way of Malta and Marseilles in English steamers.[1] Yet was the service far from perfect, and during the monsoon it was still found advisable to despatch the mails by way of the Persian Gulf: there were continual complaints of delay and inefficiency, voiced generally by the Bombay Chamber of Commerce[2]; and by 1855 the disorganization was so marked that Government gladly accepted the offer of the Peninsular and Oriental Company to carry the Bombay and London mails once a month by their Calcutta, Madras and Mediterranean line.[3] Two years

[1] Fontanier in his Voyage dans l' Inde, Vol. II. (1844), records that Waghorn opened hotels at Suez and Cairo and provided travellers with transport across the desert. The whole voyage from Bombay to Paris occupied 29 days. "Aujourd 'hui," he adds, "des voitures traversent ce désert et vont en vingt-quatre heures de Suez a Caire; les voyageurs peuvent s'arréter dans les maisons hospitaliéres élevées par des particuliers ou parcourir rapidement une route autrefois plein de fatigues et de dangers."

[2] The Bombay Times of 5th Sept 1853, records a mass-meeting in the Town Hall to protest against the defective condition of the mail service.

[3] Maclean's Guide to Bombay, Ed. 1900. p. 76.

later (1857) an agitation for an effective weekly mail service was commenced, and in 1867 a new contract was entered into with the Peninsular and Oriental Company which provided for a weekly mail-service to and from Bombay with a transit of about 26 days, and an annual minimum subsidy of £400,000 to be raised, if necessary, up to £500,000 in order to make the net profit of the Company equal to 6 per cent on its capital.[1] From that date Bombay has remained the port of arrival and departure of all the English mails, which under the terms of a fresh contract of 1880 had to be conveyed between London and Bombay in 17½ days. The period of transit was further reduced to 16½ days by the contract of 1888, which substituted for the rail conveyance across Egypt the passage through the Suez Canal, opened in 1869. Finally in February 1898 the existing contract was signed, which reduces the time in transit to 13½ days, the subsidy paid by Government to the Company being rather more than £330,000. Between 1854 and 1869 the trans-continental route for the mail service between the United Kingdom and India was *via* Marseilles; but towards the end of the latter year the service by that route was supplemented by a service *via* Brindisi. The latter continues to the present day to be the route for the Anglo-Indian mails. The system of sorting the mails on board the steamers was introduced in 1868; and the mails are now landed at Bombay, ready sorted for the chief towns and principal lines of railway, and are despatched inland by the first mail trains leaving after their arrival, special trains being employed for the most important routes.[2]

At the present date there are 36 post offices in the island, which transact all kinds of postal business and are open from 7 a.m. to 7 p.m. Of these 18 are delivery-offices, four making 13 deliveries a day, ten making 7 deliveries, three making 4 deliveries, and one making 3 deliveries. Seven of the offices in the island are combined post and telegraph offices. The number of

[1] Imperial Gazetteer, India, Vol. II., Chap. VIII.

[2] *Ibid.*

letter-boxes is 337, giving an average of 3 post-offices and 30 letter-boxes to every 2 square miles. In 1899 the hourly or continuous delivery system was introduced at the General Post Office, Kalbadevi and Mandvi, and was subsequently extended to Girgaum, and has resulted in a rise in the number of local letters from 1,200 to 17,000 a day. Mails for Karachi and the Persian Gulf are received and despatched twice a week; and mails for Europe are despatched not only by the Peninsular and Oriental Company's line, but also at intervals of a month by the steamers of the Messageries Maritimes, Austrian-Lloyd, and occasionally the Rubattino, Companies. The Peninsular and Oriental, the British India Steam Navigation, and certain German Companies convey the mails for East and South Africa; the first named Company together with the Austrian-Lloyd, Messageries Maritimes, Rubattino and Japanese steamers carry mails from Bombay for the Straits Settlements, Australia and the Far East; while mails for Mauritius are despatched *via* Tuticorin and Colombo by the British India Company's boats and also direct by the vessels of the Bombay-Persia Steam Navigation Company.

Including money orders, the daily number of articles delivered by the General Post Office and its subordinate offices in the island averages 121,000, and the daily number of articles posted 312,200, of which 17,080 are for local delivery. Nearly 3,600 money orders, aggregating in value Rs. 67,000, are paid daily, while the daily issues amount to 2,300 and are valued at Rs. 39,000. The Postal Savings-bank comprises 52,987 separate accounts with a balance of nearly 92 lakhs, and more than 400 transactions take place daily in this department. The value of the daily sale of stamps is Rs. 2100, and of transactions with the Treasury Rs. 46,000. For the purposes of account the General Post Office has control of 16 subordinate and branch offices outside the limits of the island. The postal staff in Bombay comprises a Presidency Postmaster, Deputy Postmaster, 3 Assistant Postmasters and a Superintendent, aided by 5 Inspectors, 610 Clerks, and 583 postmen.

The following table shows the number of post-offices in Bombay island and the volume of work performed by them at different periods :—

	1879-80.	1889-90	1899-1900.	1907-08.
Number of post-offices	12	15	25	36
,, letter-boxes	54	54	246	325
Value of stamps sold in thousands of rupees	5,15	7,99	11 27	20,82
,, money-orders issued in thousands of rupees	...	22,22	78,64	1,28,58
Number of letters dealt with in thousands ...			1,49,29	2,64,74
,, ,, postcards ,, ,, ,, ,, ...			81,83	1,92,06
,, ,, packets ,, ,, ,, ,, ...			14,26	33,37
,, ,, newspapers ,, ,, ,, , ...			11,04	20,77
,, ,, parcels ,, ,, ,, ,, ...			93	2,04

The following table shows the number of parcels received and despatched by the General Post-Office, Bombay, since 1879-80 :—

	1879-80.	1889-90.	1899-1900.	1907-08.
Number of parcels received from the United Kingdom.	48,132	1,05,570	1,08,432	2,39,121
Number of parcels despatched to the United Kingdom.	18,833	49,444	74,696	1,26,793
Number of parcels received from other European countries.	1,238	3,!40	6,958	25,427
Number of parcels despatched to other European countries.	2,147	4,395	4,785	11,361
Number of parcels received from Egypt.	...	761	6,675	13,263
Number of parcels despatched to Egypt.	...	182	1,073	2,146
Number of parcels received from Zanzibar.	...	49	141	312
Number of parcels despatched to Zanzibar.	...	42	653	1,132

The following table shows the number of letters, parcels, etc., despatched from India *via* Bombay at different decades:—

	1879-80	1889-90	1899-1900	1905-6
UNITED KINGDOM.				
Number of letters and post cards (1) ...	2,545,751	3,243,652	3,529,248	5,241,342
Number of packets and newspapers (1). ...	641,578	1,236,045	1,128,809	1,467,138
Number of parcels ...	18,833	49,444	74,696	109,989
Value of money orders issued ... ... £	17,760	149,251	206,107	339,886
OTHER COUNTRIES				
Number of parcels sent	2,147	4,619	6,511	9,977
Value of money orders issued	910	11,074	53,621	82,113

The Telegraph.

In 1849 the Court of Directors invited the attention of the Government of India to the subject of telegraph communication in India, and a report was called for from Dr. O'Shaughnessy, who had been experimenting in the neighbourhood of Calcutta since 1839, with a view to ascertain the most suitable form of telegraph for this country. On the strength of a report which he submitted in 1852, and on the recommendation of Lord Dalhousie, the Court of Directors sanctioned the construction of lines for electric communication from Calcutta to Peshawar in the extreme north, to Bombay in the west, and Madras in the south.[2] This was followed by the appointment of Dr. Green as Assistant Superintendent of the Electric Telegraph in Bombay. He arrived on the 1st August 1853 and by December of the same year had laid an underground wire from his office opposite the old Secretariat to the Esplanade.[3] The preliminary

[1] These are calculated on the weights of the mails and include articles despatched *via* Bombay from Calcutta.

[2] Report on the Electric Telegraph by W. B. O'Shaughnessy M.D., page 3.

[3] The Bombay Times (16th September, 1853) remarks:—"We visited the Electric Telegraph Office opposite the Secretariat. Dr. Green is in charge of the office. We were shown over the premises and afforded ocular demonstration of the working of the wires. About a dozen lads from the Byculla schools are being instructed by Dr. Green. They attend for a couple of hours on week-days. The site for the office has been judiciously chosen as being in close proximity to the Secretariat."

electrical operations up to this point proving satisfactory, the line was by gradual additional sections subsequently extended to Parel. The Bombay Government advanced Rs. 7,421 for the erection of a building in the compound of the Old Secretariat as office and quarters for the operator in charge, to whom was entrusted the task of supervising communication between the Secretariat and Government House, Parel. This was the first electric circuit established in the town of Bombay.

Acting under instructions from Dr. O'Shaughnessy Dr. Green left Bombay on the 23rd December 1853 with twelve trained artificers, brought from Warley (England), and commenced the construction of a line from Bombay towards Calcutta, other working parties co-operating with him at various sections of the distance. The initial section of the first outward line from Bombay to Thana was completed on the 8th February, 1854,[1] and by the 18th May in that year electric communication was established between Bombay and Calcutta, and the Madras section was opened as far as Satara. The completed sections however were not opened for public use until the 27th November, 1854, in response to Dr. Green's statement that "numerous experiments must be made and various errors must be corrected before we can venture on an official declaration that the line is open." The two lines were however utilized for the transmission of State and service messages of an urgent character. At the outset considerable inconvenience was caused to the public by the fact that the signalling establishment was inexperienced and imperfectly organized : but this was gradually obviated and a more suitable set of rules regarding fees and the repetition of messages was introduced.[2] Bombay was put into direct communication with Madras in 1855.

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[1] Letter in the Public Department to Court, November 1854.

[2] Annual Report of Bombay Chamber of Commerce, 1854-56. The rules for transmission of telegrams were passed by the Governor-General in Council on 5th January 1855 and modified by the President in Council on the 4th May 1855. The charge for messages was as follows for an unit distance of 400 miles or less :—

In 1855-56 the Bombay Government submitted a strong recommendation in favour of establishing telegraphic communication between Bombay and Karachi and the larger towns of Gujarat[1]; and in the following year arrangements for partially supplying the want were set on foot with the assistance of the Bombay, Baroda & Central India Railway Company.[2] By 1858 the telegraph stations in the Presidency worked from the Bombay office were Poona, Satara, Kolhapur, Belgaum, Dharwar, Nasik and Malegaon. A third wire connected Bombay with Surat, whence it was extended to Broach, Baroda and Ahmedabad. By further additions the line from Ahmedabad was linked with Karachi; a branch line from Poona established communication with Ahmadnagar; and Belgaum was linked to Goa, and Madras to Point de Galle. The increase of work engendered by these extensions obliged the department to vacate the building in the compound of the Old Secretariat and to rent and equip a private building in Apollo street.[3] This, however, did not prove wholly suitable, and to suit the convenience of the local public, particularly the mercantile community, the office was transferred in 1859 to a spacious building in Tamarind lane, two other local offices being opened in the messroom of the Town Barracks and at Lower Colaba.[4] Both the latter were apparently established for the convenience of the Military Department.[5]

By 1859 Bombay was linked with other parts of India by four main lines. The first connected the Bombay office with Malabar Point, Parel and Matheran and was

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From 1 to 16 words		Rs. 1-0-0
From 17 to 24	,,	Rs. 1-8-0
From 25 to 32	,,	Rs. 2-0-0
From 33 to 48	,,	Rs. 4-8-0

For distances exceeding 400 miles the charge was double the above, exceeding 800 triple the above rates and so on. (Bombay Calendar and Almanack, 1858.)

[1] General Administration Report, 1855-56.

[2] *Ibid*, 1856-57.

[3] Bombay Calendar and Almanack, 1858 and 1859.

[4] See Telegraph Office under Places and Objects of Interest infra, Vol. III.

[5] The Town Barracks were situated in the premises of the Transport and Supply Stores.

used almost exclusively by the Governor of Bombay and his staff ; the second connected Bombay with Madras, including in its circuit Poona, with a branch to Dapuri,[1] Satara with a branch to Mahabaleshwar, Kolhapur, Belgaum with a branch wire to Savantvadi and Vingurla, Dharwar and Gadag : the third line linked Bombay and Agra with branch offices at Thana, Nasik, Malegon, Dhulia and Sirpur ; and the fourth line between Bombay and Karachi allowed telegraphic communication with Thana, Nasik, Surat, Broach, Baroda, Kaira, Ahmadabad, Deesa, Nagar Parkar, Budina and Hyderabad (Sind).[2] In 1860 a new line of communication with Calcutta was opened *via* Indore, Agra and Benares, a distance of 1,600 miles. Mail messages were despatched from Bombay to Agra, a distance of 800 miles, in 5 minutes. The total number of messages disposed of in the Bombay Circle for the year 1859-60 was 43,228.[3]

The year 1861 was a remarkable one in the annals of the Bombay Telegraph Department, by reason of an incident which, affecting as it did the discipline of the office and public confidence, severely exercised the minds of the mercantile community. Two operators, Pectall and Allen, were induced by a group of merchants, who had bribed them, to publish a telegram on the notice board of the Electric Telegraph Office, over the signature of one O'Brien, purporting to be the latest commercial intelligence regarding opium from China. As a result, several speculators immediately entered into heavy transactions and incurred great losses, while the profits reaped by the instigators of the fraud were enormous. The local press took up the matter and pointed out that at least 35 telegrams from Galle had been falsified about the same date, and that advices about opium from China had been surreptitiously drawn from the wires while in transmission, by cutting the line on the Bombay side of Satara, and reading the messages off upon an instrument

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[1] Dapuri used to be the monsoon residence of the Governor. Lady Falkland's Chow-Chow. I. (216-17).

[2] Bombay Calendar and Almanack, 1859, page 169.

[3] Martin's Progress and Present State of British India, 1862, pages 264-66.

taken to the spot for that purpose.[1] The intelligence thus obtained was quickly telegraphed to Bombay by the railway-wires. A public meeting was therefore held in the rooms of the Chamber of Commerce on the 8th February, at which resolutions were adopted for transmission to the Supreme Government, and as a result the two signallers were charged before Mr. W. Crawford at the Fort Police Court with wilfully cutting the telegraph wires, and after enquiry were committed to the Criminal Sessions.[2] The disclosures at the trial cast an unfavourable light upon the discipline of the office, and being followed in March 1861 by a public complaint that no steps were taken by the authorities for the proper preservation or disposal of original messages, led to a thorough revision of the internal working of the department.[3]

On the 15th May 1864 Bombay was put in communication with Europe *via* Turkey[4] and the cable route from Bombay *via* Aden and Suez was opened in the spring of 1870. The original tariff was £5 or Rs. 50 for messages of 20 words between India and the United Kingdom, which was reduced in 1868 to £2 17*s.* 6*d.* or Rs. 28-8-0 for 20 words. In 1871 this tariff was raised to £4½ or Rs. 45 for 20 words and in 1875 a word rate was established at francs 5·50 *via* Suez or Teheran and a francs 5 *via* Turkey. In 1885 the rates were reduced to francs 5 and 4·50 respectively. From 1st March 1902 the rates *via* Teheran and Suez were reduced to francs 3·25 or 2*s.* 6*d.* per word and from the 1st January 1903 the charge *via* Turkey was reduced to 2*s.* 3*d.* a word.[5] In 1881-82 the charge for inland telegraphs had been lowered, but the value of this reduction to the city was somewhat negatived by the establishment of the telephone which, by the year 1882-83, connected most of the

[1] Bombay Times and Standard, 12-1-1861 and 19-1-1861.

[2] Ibid, February 9th, 11th, and 15th, 1861. Both accused were tried by the Supreme Court and sentenced by Sir Matthew Sausse to rigorous imprisonment for 18 months.

[3] Ibid, March 2nd, 1861. Baskets full of telegrams were lying about in the compound of the Colaba Office.

[4] Introduction to Telegraph and Travel. Annual Telegraph Report, 1871-72.

[5] Financial and Commercial Statistics of British India, 1904.

principal offices in the city and was worked by the Government Telegraph Department.[1]

In 1880 a reduction in the traffic rates and the introduction of the deferred class of telegram stimulated the commercial requirements of the city so greatly that local offices were opened for the benefit of native merchants in Masjid and around Paidhoni. The dealers in opium, grain, gold and precious stones made such good use of these new offices that similar relief was accorded to the merchants at the Cotton Green in Colaba, who had previously been obliged to send all messages from the Fort. A further measure for the public benefit was the combined office system, whereby in some Post Offices telegraph and postal work was conjointly performed. At present (1909) there are 8 departmental and 6 combined offices in communication with the central office, and every busy portion of the city is within a mile, or a little more, of a telegraph office, whence in extreme cases a message can be despatched to any part of India or abroad at any hour of the day or night. The total number of lines radiating from Bombay to different cities of India is 73, of which 11 wires represent the local circuits of the office in the city. The total number of operators, clerks, etc., employed in the central office is about 400, excluding 11 non-departmental and 19 military telegraphists. Out of these, 29 are telegraph masters engaged in various duties entirely connected with the traffic, four of whom are testing telegraph masters charged with the continuous scrutiny of the working of the 73 circuits and their respective instruments. The conduct and supervision of the Meteorological and Signal Offices and their general administration are in the hands of the Superintendent aided by a Sub-Assistant Superintendent and a staff of 20 clerks.

...e Bombay ...b-Division. The supervision and control of all the local offices and all the wires emanating from the Bombay Central Office lie with the Superintendent of the Bombay Division, in the area comprised within the limits of Bombay to Hyderabad in the south and of Bombay to Deolali in the east.

[1] Administration Report of Bombay Presidency, 1881-82 and 1882-83.

The City offices in the Bombay Sub-Division comprise 8 departmental offices, 6 postal combined offices, and 2 temporary offices at the Ballard Pier and the Racecourse, which are opened when required. In the administration of the sub-offices of Bombay, the Superintendent is assisted by an Assistant Superintendent, who is in charge of the Bombay Sub-Division. His territorial administration extends to all the departmental and the combined offices comprised in the area from Bombay to Deolali on one side, and from Bombay to Kapoli on the other. The total mileage of wire under the direct control of the Bombay Sub-Division is 7,600 miles. One Sub-Assistant Superintendent is usually attached to the Sub-Division. During the year 1907 the aërial wires between Bombay and Dadar were carried underground. This measure was deemed expedient in order to relieve the existing poles of the enormous weight of as many as 60 wires, to reduce contacts, interruptions etc., and to partly obviate the displacement of the poles, from time to time, to make room for the extension and erection of the blocks and houses of the B. B. & C. I. Railway Company.

The subjoined table gives statistics for Bombay City and Island in 1907-08:—

Telegraph Statistics for Bombay City for 1907-08.

Name of Office.	Date of Opening.	Sent.	Received.	Transit.	Total.	Revenue.
						Rs.
Bombay Central Office...	1-11-1853	936,654	1,670,145	3,634,413	6241,212	15,46,088
Apollo Bandar...	15-4-1903	16,178	426	...	16,604	26,385
Ballard Pier ...	12-12-1902	44	...	...	448	629
Byculla	8-10-1870	20,215	27,584	43	47,842	21,901
Colaba	17-2-1881	5,475	4,844	...	10,319	14,835
Crawford Market	1-5-1893	72,576	688	...	73,264	54,396
Exchange Building	3-1-1882	8,606	1,344	...	9,950	4,249
Girgaum ...	1-2-1888	21,686	21,261	...	42,947	13,469
Kalbadevi ...	1-5-1893	290.586	685	...	291,271	1,44.418
Malabar Hill ...	1-9-1886	4,415	12,034	...	16,449	5,741
Malabar Point...	1859	472	1,535	...	2,007	1,361
Masjid	15-3-1881	177,139	26,881	...	204,018	1,35.930
Mazagon ...	1-6-1885	6,777	9,685	...	16,462	4,520
Parel	1-2-1901	2,832	7,412	...	10,244	1,438
Paidhoni ...	15-2-1881	312,023	1,141	...	313,164	1,14,302
Racecourse ...	9-2-1901	...	...	...	...	...
Tardeo	17-3-1900	3,017	5,034	...	8,051	2,781

The general growth of telegraph work is shown by the fact that whereas in 1900 there were 13 offices which despatched 322,392 and received 656,413 messages, in 1908 there were 17 offices which despatched 1,879,099 and received 1,790,699 messages. Besides these, over 56,000 messages are sent from railway stations, about 14,000 from the stations of the B. B. & C. I. Railway and 42,000 from the stations on the G. I. P. Railway. In the latter case, the largest number is sent from Victoria Terminus (33,000), Byculla (4,800) and Dadar (1,700), and in the former from Grant Road (8,600), Church Gate (1,115) and Charni Road (1,057). These figures do not include Service messages.

The Telephone. The history of telephone-communication in Bombay dates from the year 1880-81. In November 1880 the Government of India informed the Bombay Chamber of Commerce that they were considering the question of introducing the telephone into India as part of the machinery of the Telegraph Department, and asked for an expression of the views of the Chamber on the subject; to which the Chamber of Commerce replied that in their opinion the introduction of this convenience should be left to private enterprise. In accordance with this view the Government of India accorded permission to the Oriental Telephone Company in 1881 to place telephone wires throughout the city, such permission to hold good for a term of ten years. This Company did not however last long; for in 1882 the Bombay Telephone Company, established with limited liability under the Indian Companies' Act, was formed with a nominal capital of 9·6 lakhs to acquire from the Oriental Telephone Company all the telephone exchanges and lines in Bombay and Karachi, together with the licenses and rights granted to them by the Government of India. By the 30th June 1883 the new Company had established 144 telephone stations in the city, and most of the public offices had been placed in communication with one another.

Prior to the year 1904 the Company, which holds a license from the Telegraph Department, had carried out its work through six exchanges in various parts of the

island; but by that date the number of lines had so largely increased and the system was in such need of reorganization that the Company decided to erect a building of its own containing a large central exchange and offices and to transfer all the lines then working in the outlying exchanges to the central exchange by means of underground cables. Hence were erected on Hornby road the new Telephone Buildings which were opened in 1906, the underground cable scheme being commenced in 1905. At the present date (1908) the Company maintains 1,914 telephone stations and 220 private line installations.[1]

Provided a line presents no special difficulty of construction and is not of undue length, the following charges are made by the Bombay Telephone Company for exchange connections :—

For Mills	... Rs. 250 per annum.
,, Ordinary Business connection	... Rs. 200 per annum.
,, Private Residences	... Rs. 110 per annum.

The early references to Bombay shipping are not very numerous. David Davies, at the date when he attacked the island in company with the Dutch (1623), found "two new frigates not yet from the stocks nor fully ended", and about twelve years later the English had pinnaces built for them at Bassein under a convention signed by themselves and the Portuguese. In 1668 after the transfer of the island to the East India Company orders were despatched from England that an armed vessel of 180 tons should always be stationed in the harbour for defence purposes, and one Warwick Pett was sent out to Bombay to supervise the Company's ship-building. Some of the ships built during the early period of British rule in Bombay were of great size. Hamilton, for example, was at one time in command of a vessel that drew 20 feet of water, and several native merchants owned fleets of fine ships varying from 200 to 800 tons.[2] But ship-building in Bombay never developed

Navigation *Shipping* 1623-1857.

[1] The Company also maintains a telephone service in the town of Karachi and Ahmadabad, the rates there varying in proportion to the distance of the station from the exchange.

[2] Bombay Gazetteer, Vol. XIII, Part II, 488.

into a fine art until 1735 when Lavji Nasarwanji Wadia was brought down from Surat and bidden to open a trade in teak with the Bhils and other wild tribes of the inland forests.[1] By 1750 the shipping at Bombay comprised "beautifully modelled English-built galleys, carrying 18 to 20 guns, provided with oars and specially useful in a calm", a few grabs modelled after Angria's grabs "with prows best suited for carrying chase guns" and "a competent number of *galivats* or row-boats." Large European ships were also occasionally stationed in the harbour.[2] Forbes speaking of the shipping in 1766-1770 remarked the excellence of the ships of the line, the grabs and the galivats to be seen in Bombay;[3] while Parsons in 1775 laid down that the ships built at Bombay were as strong, as handsome and a well-finished as ships built in any port of Europe. "The timber and plank of which they are built so far exceeds any in Europe for durability, that it is usual for ships to last fifty or sixty years. As a proof of this I am informed that the ship called the *Bombay Grab* (the second in size belonging to the Company's marine) has been built more than sixty years and is now a good and strong ship. The Company's marine on the Bombay establishment are more than 20 in number, the largest of which is the *Revenge* mounting 28 guns, 20 of which are twelve-pounders. The second is the *Bombay Grab*. The remainder are from 16 to 8 guns, and as there are several little piratical States both on the north as well as on the south coast of Bombay the coasting trade could not be carried on in safety without being convoyed by such vessels belonging to the Company. It is usual to see 60 or 80 coasting vessels sail between Surat and Bombay convoyed by one or two of these vessels."[4] The largest ship ever built in Bombay was the *Ganges*,

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[1] Bombay ship-building closely followed the lines of Surat ship-building, for a description of which see Grose's Voyages, and Bombay Gazetteer, XXVI, Part I., pp. 30, 33 and 36 and Part II., pp. 187-195.

[2] Bombay Gazetteer, Vol. XIII, Part II, p. 497 (note).

[3] Oriental Memoirs I. 151-154.

[4] Bombay Gazetteer, Vol. XIII, Part II., pp. 500, 501 and pp. 511, 517 and 518. Rennell's Memoir on map of India, 1788,

a frigate pierced to carry 92 guns and of 2,289 tons. Of other large men-of-war there were launched one of 74 guns, two of 38 guns, two of 36, two of 18, and two of 10 guns. For the purposes of commerce there were built up to 1816 nine ships of 1000 tons, five of 800, six of 700 and five of 600 tons besides thirty-five smaller vessels. The first boat made of iron was the steam vessel "Planet" made in 1840. The first steamer built at Bombay was the "Hugh Lindsay"[1] (411 tons) completed in 1829. No more were built for eleven years. In 1840 five steam vessels were built.

The following statement shows the number of ships built at Bombay between 1736 and 1857 :—

Bombay Ships 1736—1857.

In ten years ending	Number of ships built.	In ten years ending	Number of ships built.	In ten years ending	Number of ships built.
1745	7	1795	22	1845	35
1755	10	1805	24	1855	36
1765	2	1815	38	In 1856	1
1775	17	1825	26	,, 1857	2
1785	14	1835	33		

It appears from the records of shipping at the port of 1857-1907.
Bombay between the years 1840 to 1860 that scarcely a single steamship was employed in the mercantile marine before 1853-54, the whole of the trade of Bombay being apparently carried on by means of sailing-vessels and country craft. The sailing-vessels arrived from Great Britain, the Cape of Good Hope, Natal, Ceylon, Mauritius, Aden, France, America, Manilla, China, the coast of Japan, the Arabian Gulf, Penang and Singapore ; while the native craft came from the African coast, the Arabian and Persian Gulfs, Cutch, Goa, Daman, Diu, Sind, Malabar, Kanara, the Konkan, Gujarat, Makran and Aden. The

[1] Mount Stuart Elphinstone in 1823 was the first to make a distinct official proposition for the establishment of steam communication between Bombay and England *via* the Red Sea and in 1826 he renewed his proposal, but the Court were unwilling to act on the suggestion. The "Hugh Lindsay" built at Bombay made seven voyages to Suez before the Red Sea route was decided upon (1837). The Indian Navy conducted the mails.

absence of steamers among the merchant ships prior to 1853-54 is accounted for by the fact that until the year 1845 no companies had been formed to conduct the trade of this country by means of steam-vessels. Capitalists were loath to embark their money in such ventures, while the East India Company were averse to the idea of throwing open the trade which they carried on by means of their own steamships to private enterprise. As moreover the distances between the coaling-stations on the Cape of Good Hope route were so great that steam-vessels were forced to carry fuel almost to the exclusion of cargo, sailing vessels reigned supreme on that route. "Steamships to India by the Cape of Good Hope," wrote Mr. Lindsay in 1876, "have proved an unprofitable undertaking. From the time that the trade of India was thrown open sailing ships to that country as well as to Australia have been the chief means of transport and these carried until as late as 1875 by far the largest proportion of the goods traffic."[1] Among the earliest mercantile steamers on the Eastern Seas were those of the Peninsular and Oriental Steam Navigation Company; and for some years they held a practical monopoly of the passenger traffic and of the more valuable portion of the goods traffic. They established regular communication with Bombay in 1854, being forced at the outset to send every ton of coal required for their steamers between Suez and Bombay in sailing-vessels round the Cape of Good Hope. The Messageries Maritimes Company followed them in 1861 for the conveyance of the French mails to India, while the Austrian Lloyd Company of Trieste and the Rubattino Company of Genoa entered into competition after the opening of the Suez Canal. Each of these two companies was supported by its own government and undertook to run a fortnightly line to Bombay during the period January-April, and a monthly service during the remainder of the year. Thus although between 1853 and 1857 merchant steamers were employed in the trade of this country their number was comparatively small; and no rapid development in steam communication actually took place until after the opening of the Suez Canal in 1869.

[1] Merchant Shipping. Vol. IV (1876).

Even after the Suez Canal was opened the rates of freight were so high that the overland route was utilized only to a limited extent and for the most expensive classes of goods, and ordinary cargo was carried as before in sailing-ships *via* the Cape route.[1] In 1863 Messrs. George Smith and Sons started a monthly line of sailing ships to Bombay, and sixteen of these vessels reached Bombay *via* the Cape in 1878.[2] Another notable class of vessels were the sailing clippers, engaged in the tea-trade and opium-traffic, which were mainly owned by English merchants of Hongkong. Later however this class of vessel yielded place to fast steamers owned by English and native merchants, one of the finest of these vessels being the *John Bright*, owned by a Parsi firm, which made her first voyage from Gravesend to Bombay *via* the Cape in 58 days in 1862.[3] The rate of freight for opium by steamer was Rs. 28 per chest while by clipper it was Rs. 5, and by fast clipper Rs. 10 to Rs. 16.[4] In the coasting-trade however the steamers of the Bombay Steam Navigation Company had been running since 1847 and those of the British India Steam Navigation Company commenced running ten years later. The former entered into a contract with Government in 1853 for the conveyance of mails between Bombay and Karachi for a period of three years, employing on this service a vessel called the *Victoria*;[5] and this arrangement apparently continued until 1862 when the British India Steam Navigation Company undertook to run a fortnightly mail service between Bombay and Karachi. The ferry-line between Bombay, Uran and Nagothna was established in the early seventies when Mr. Shepherd joined the Bombay Steam Navigation Company.[6]

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[1] P. and O. Company's pocket-book, 1889, pp. 46, 47.

[2] Lindsay's Merchant Shipping Vol. II., pp. 439-442.

[3] Lindsay's Merchant Shipping. Vol. IV, 1876, p. 455.

[4] Second Report of Select Committee on Steam Communication with India, 1851, pp. 251, 253.

[5] Secretariat Records (G. D.), 1852-53.

[6] Prior to this date ferries had been for many years in existence. In 1836 passage boats plied between Bombay, Thana, Karanja and Mandva. They were rented and held by farmers who paid

In 1856-57 the mercantile community of Bombay suffered much inconvenience and expense in consequence of the insufficiency of cargo boats in the port. The daily rate for cargo boats rose from Rs. 2½ to Rs. 20 and a common baggage boat which formerly charged about Rs. 10 for a journey from Bombay to Nagothna was often not obtainable for Rs. 40. This scarcity of boats resulted partly from the fact that the Commissariat Department had engaged a very large number in connection with the Persian Expedition, and partly because the number of square-rigged vessels that entered the port in that year was greatly in excess of the normal number. Similar inconvenience was experienced in 1859-60 in consequence of vexatious restrictions being placed by the Master Attendant upon the licence allowed to cargo boats to hang astern of ships loading or discharging. The native owners of the cargo boats struck work in a body, and declined to do business until the obnoxious regulations were rescinded, with the result that trade was interrupted for several days. Eventually, at the instance of Government, the harbour authorities consented to act upon the suggestions of a Committee of the Chamber of Commerce, and the strike was brought to an end.[1]

Two statements showing the number of vessels (sailing) which entered and cleared the port of Bombay between 1801 and 1850-51 and the number of sailing vessels and steamers which entered and cleared the port between 1851-52 and 1906-07 are given at the end of the chapter.

Steam Navigation Companies.

Up to the year 1840 the Indian mails for England were conveyed in steamers plying monthly between Bombay and Suez and thence by Government steamers from Alexandria to Gibraltar where they met the steamers of the Peninsular Company which landed them in England. In 1839 the British Government had

the following revenue to Government :—Thana passage, Rs. 750; Karanja and Uran passage, Rs. 2,775; Mandva, Kolgaum, Thal, Ravani and Alibag, Rs. 4,000. There was also a ferry boat at Mahim under the control of the Assistant Collector, Mahim Custom House, which cost Rs. 75 annually in maintenance.

[1] Report of Chamber of Commerce, 1859-60, p. 30.

entered into a contract with the French for the carriage of the Indian mails through France *via* Marseilles, and an admiralty packet was engaged between Marseilles and Malta. These mails together with the mail from Gibraltar brought by the Peninsular Company were carried to Alexandria by another of Her Majesty's ships, and finally from Suez to Bombay by a steamer of the East India Company. This arrangement however did not work satisfactorily and Government were forced to enter into a contract with the Peninsular Company to carry mails from England to Alexandria. The Company thereupon despatched two vessels from England to Alexandria, *viz.*, the *Orient* of 1,600 tons and the *Liverpool* of 1,540 tons, thus combining the two mails and establishing the Peninsular and Oriental Company. The annual subsidy paid by Government was £34,000. Meanwhile the steamers of the East India Company plying between Bombay and Suez were quite as unsuitable as the old admiralty steamers running between Alexandria and England, and the P. & O. Company, believing that the traffic of the Indian service would materially aid their Mediterranean line, applied for and obtained in 1840 a charter of incorporation for establishing steam communication with India. The charter was granted on condition that the Company should establish steam communication with India within two years from that date. Accordingly the Company constructed two vessels, the *Hindustan* and the *Bentinck*; and purchased a third, the *Precursor*, from another Company. These three vessels were about 1,800 tons each and of 520 H.P. The Directors of the East India Company were however reluctant to allow "interlopers" and some years elapsed before the Bombay branch of the service had been transferred to the P. & O. S. N. Company.

In 1842, after much pressure had been brought to bear upon it, the East India Company consented to a contract with the P. & O. S. N. Company for a service between Calcutta, Suez, Madras and Ceylon, and on the 24th September 1842 the *Hindustan* was despatched from Southampton to open this service in return for a subsidy of £115,000 a year. The service between Bom-

bay and Suez however remained in the hands of the Court of Directors until 1854. Meanwhile a contract was made with the P. & O. Company for a monthly service from Ceylon to Penang, Singapore and Hongkong for an annual subsidy of £45,000 ; and it very soon became apparent that, whereas the P. & O. Company carried the mails to China at the average rate of 17 shillings a mile, the inferior vessels of the East India Company employed between Bombay and Suez cost more than 30 shillings a mile. The public therefore demanded that this branch of the service should be transferred to a competent company, and at length, after the Bombay mails had on one occasion been lost at sea, a contract was made with the P. & O. Company in 1854 for the conveyance of mails between Suez and Bombay for an annual subsidy of £24,700. In the year previous (1853) the P. & O. Company had entered into a fresh contract with Government whereby they undertook to convey the mails twice each way in every month between England and Alexandria and twice a month between Suez, Calcutta and Hongkong, while the mails between Singapore and Sydney were to be carried once each way every alternate month. The speed required for vessels on the main line was 12 knots an hour and for others 10½ knots without the aid of sails. If the Company failed to put out vessels from Southampton, Alexandria, Suez, Calcutta, Hongkong and Sydney they had to forfeit £500 in each case. The outbreak of the Crimean war and the consequent demands on the Company for the conveyance of troops obliged them at the close of 1854 to discontinue the branch service to Australia and to reduce the Bombay and China service to a monthly instead of a fortnightly line. But the outbreak of the mutiny in 1857 emphasized the need of better communication between England and India, and in November of that year arrangements were made under the contract of 1854 to extend the line between Bombay and Aden to Suez and to establish in connection with it a fortnightly service between Marseilles and Malta. The arrival of the Bombay mails was made to alternate with the arrival of the Calcutta mails instead of being synchronous as

before, so as to ensure weekly communication which has since been maintained.[1] At present the P. & O. Company's fleet consists of 61 steamers of 413,955 tons and 443,000 H. P. in the aggregate, and 29 steam tenders and tugs.

The Messageries Maritimes Company is wholly maintained by grants from the French Government. The Company first contracted in 1851 to carry the French mails to Italy and Egypt and in 1861 obtained from the French Government a further contract for the conveyance of the French mails to India and China. At this date their fleet consisted of 54 ships of 80,875 tons and 15,240 H. P. By 1871 the tonnage of the fleet had increased to 175,000 exclusive of sailing ships. Most of their vessels at that date were built in England, but they now have large establishments of their own where they construct screw steamers of iron, closely resembling those of the P. & O. S. N. Company. The ships of the Company visit all the chief ports of the Mediterranean, the Black Sea, and the ports of India, China, Japan, Java, Algeria and Brazil. Out of their total fleet of 67 steamers, 23 are employed on the India, China and Japan lines.

The chief lines besides the P. & O. and the Messageries Maritimes which send passenger steamers to Bombay are the Hall, City, Anchor, Austrian Lloyd's, Florio-Rubattino and Nippon Yushen Kaisha lines. The last-named line maintains a 10 days' service between Bombay and Japan.

A statement showing the number of steamers of the several Steam Navigation Companies which arrived at and departed from the Port of Bombay in 1907-08 is given at the end of the chapter.

The most important commercial maritime company engaged in the coasting trade of India is the British India S. N. Co. (Ltd.), which commenced business originally in 1857 under the title of the Calcutta and Burma S. N. Company with a line of steamers between Calcutta, Akyab, Rangoon and Moulmein. In 1862 the

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[1] Lindsay's Merchant Shipping (1876) Vol. IV.; P. & O. Pocket Book of 1889.

Company changed its name to its present designation, its operations having been extended to the Coast of India and Persia so as to allow of a continuous coasting service between Singapore on the one hand and Zanzibar on the other. The Company had its origin in an advertisement by the East India Company in 1855 for the conveyance of mails between Calcutta and Burma which service had hitherto been performed by their own vessels, the *Enterprise* being the first. Mr. Mackinnon, the managing director, and his partners undertook the contract and despatched the *Baltic* and *Cape of Good Hope*. These vessels arrived in India by the Cape of Good Hope and were engaged for the transport of troops at the outbreak of the Mutiny. One of their vessels, the *Calcutta* of 900 tons, was wrecked off the coast of Wicklow, while the *Cape of Good Hope* was sunk in the Hooghly through a collision with one of the P. & O. Co.'s steamers. Other vessels lost by the Company were the *Burma* wrecked on the Madras Coast, *Bussorah* on her voyage to India, *Coringa* stranded at Muscat, *Persia* foundered between Rangoon and Calcutta. New vessels however were built and in 1862 a fresh contract was made with the Government of India including conditions for the conveyance of troops and stores as well as for the conveyance of mails every fortnight between Calcutta, Akyab, Rangoon and Moulmein and also every month *via* the two latter ports to Singapore ; and for a similar service to Chittagong and Akyab, another to the Andaman Islands, a fortnightly service between Bombay and Karachi and another between Madras and Rangoon once every month and another to ports in the Persian Gulf every six weeks.

The opening of the Suez Canal in 1869 lent fresh vigour to the Company and their steamer *India* was the first that proceeded to London with a cargo of Indian produce through the new maritime highway. In 1873 the Company entered into still more extended arrangements with the Government of India by doubling some of their existing lines. In 1872 the Directors agreed with the Home Government to organize a mail service between Aden and Zanzibar. The Company have

lines also along the coast of Africa, Arabian shore of the Red Sea, coast of Persia and by way of Baluchistan along the western shore of India as far as Ceylon. At present the Company's fleet consists of 110 steamers of 99 to 3,992 tons and 62 to 1,482 H. P.

The precise date of the establishment of the Bombay Steam Navigation Company is unknown. But as early as 1847 the Company possessed five steamers which plied between Bombay, Surat, Karachi and Colombo. Five years later (1852), they obtained a contract from the Government of India for the mail service between Bombay and Karachi for a period of three years commencing from the 1st January 1853.[1] In the early seventies, when Mr. Shepherd and Mr. Haji Kasam Yusub acted as Agents of the Company under the title of Messrs. Shepherd and Co., an independent ferry line was established with two small boats of 50 tons burden, which plied between Bombay, Uran and Nagothna. This venture proved so successful that six more boats were added, and gradually the ferry service expanded into a regular coasting-service, embracing nearly all ports between Karachi and Goa. In 1901 Mr. Shepherd retired from the business and his interest passed into the hands of Messrs. Haji Ismail Kasam and Co. at a purchase price of 30 lakhs. This firm carried on the business for a few years until Messrs. Killick, Nixon and Co. became the Agents of the Bombay Steam Navigation Company. During the busy season (September—May) the Company plies 7 steamers to various ports on the west coast of India and during the off-season 6 steamers, one of which sails direct to Karachi, another to Marmagoa and intermediate ports, two others to Bhavnagar and two to Karachi and the ports of Cutch.

Native Craft.

The native craft of Bombay fall into two main classes, *viz.*, the sea-going craft and the harbour craft. The first class includes vessels engaged in the coasting trade and those which take long voyages to the Malabar Coast, the Persian Gulf, the Arabian Ports, Aden and Zanzibar. The most noteworthy types of this class are the *baghla*

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[1] Secretariat Records, 1852-53.

ranging in size up to 60 tons; (10) the *Batille* (from Portuguese *batel*), an open boat resembling a small *sambuk*, with one mast and a lateen-shaped mainsail, manned by a crew of 5 to 8 men and ranging in size up to 100 tons; (11) the *Machchva* (Sanskrit *matsyavaha* or fish-carrier), resembling a small *padao* but without the exaggerated beam aft, with one mast and one high-peaked lateen sail, manned by large crews for fishing purposes and ranging in size up to 40 tons; (12) the *Hodi* (from Kanarese *odi*, a narrow boat), a common fishing-boat, double-ended with one mast, one lateen sail, manned by a crew of 10 or 15 men and averaging 30 feet in length with an 8-feet beam; (13) the Jolly-boat (from *gallivat* or *galbat*) of two kinds, the one locally built, the other brought from Karachi, and both single-masted lateen rigged boats, manned by a crew of 5 including a tindal, and averaging in size about 9 tons. Jolly-boats are chiefly used for transporting passengers, baggage and stores to the shipping in the harbour; and (14) the *Toni* (from Kanarese *doni*, a canoe), a small canoe-shaped passenger boat peculiar to Bombay, usually hollowed out of a single tree, propelled by both oar and sail, manned by a crew of 4 including a tindal, and averaging from 25 to 30 feet in length. The commonest Hindu names for boats in use at Bombay are *Darya daulat* (Wealth of Ocean), *Lakshmiprasad* (Lakshmi's grace), *Daulatprasad* (Wealth's grace), *Hiraprasad* (Diamond grace), *Ramprasad* (Rama's grace) *Dhanprasad* (Grace of Wealth), *Labhsavai* (Gain and-a-quarter, *i.e.*, supreme gain), *Savai Salamati* (Supreme safety), *Kalyanprasad* (Welfare's Grace), *Ganeshprasad* (Ganpati's grace), *Yashvanti* (Glorious), *Daulat Savai* (Supreme wealth), *Nasib Savai* (Supreme luck). The chief Arab and Urdu names are *Fathel Khair* (Great success), *Fathel Rahiman* (Success from the Merciful), *Salamati* (Safety), *Mahmudi* (Goodness), *Fateh Salam* (Safety's victory), *Fateh Karim* (Success from the Compassionate), *Muafiq* (Suitable), *Sadal Karim* (Divine prosperity), *Naseri* (Help), and *Mubarakhi* (Good luck).[1]

[1] Further details will be found in an account of Bombay Native Craft by Commander Wilson, R.I.M., published by the Port Trustees.

Trade.[1]

Bombay figures in the writings of ancient travellers as one of the ports of the Thana coast, which once played a leading part in the foreign commerce of Western India; but it was not till comparatively recent times that she acquired any considerable importance as a trade-mart.[2] At the close of the 17th century, indeed, a writer declared it impossible "that Bombay from its situation could ever become a place of trade notwithstanding the great attention paid to it by the English Government,"—a declaration made doubtless in the belief that in the state of navigation then existing these seas could only be traversed at certain seasons and that a river was necessary to command the commerce of the interior.[3] Nevertheless the lessons of past history might have taught the writer that under certain circumstances Bombay was perhaps more likely than other places on the west coast of India to develop into one of the ports of the world. For she possessed a wonderful harbour and was in close touch with a population which during dim and prehistoric ages had developed the science of ocean navigation long before its rudiments were known in Europe. The *Audax Iapeti genus* were content to make coasting voyages in the Mediterranean and round Spain to the British Isles for centuries after Arabs, Chinese and Indians had been engaged in a foreign trade of a far more venturesome character. Perchance the tradition is true that the discovery of the direct passage across the Indian ocean from Aden to the coast of Gujarat was made by a sailor whose boat was caught in the south-west monsoon and driven across despite all his efforts to return. In any case we may reasonably suppose that the regularity of the seasons in India—the wind blowing steadily during four months of the year from the south-west and during nearly all the rest of the year from the north-east—soon suggested the practicability of long voyages. During the rule of the Silahara

[1] Compiled from notes supplied by the Collector of Customs.

[2] Bombay Gazetteer, Volume XIII, Part II, 403, 433, 434, 448, 449, 450, 465, 471, and note 4. *Ibid* Volume I, Part II, 29, 30.

[3] Report of External Commerce for 1801-02.

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dynasty (A.D. 810-1260) Hindus, Muhammadans, Persians, Arabs, Jews and Chinese visited and settled in the ports of the north Konkan and braved the dangers of the sea for the sake of the sandalwood and ambergris of Socotra, the aloes, camphor and spikenard of Siam, Java and Sumatra, the porcelain of China and the cowries and gold-dust of Sofala. "Ten thousand Persians and Arabs made their home in Chaul; the Jew brought a living freight of women, eunuchs and boys by way of the Gulf to Chaul, Sanjan and Sopara; thirteen Chinese ships, made of double fir-wood, fastened with good iron nails, and daubed with lime, chopped hemp and wood-oil, passed the stormy months of A.D. 1292 in the harbour of Bombay. Nor were the Celestials the only visitors to our islands. There were sea-robbers and corsairs in our harbour at the close of the 13th century, for Marco Polo himself saw them,—one of the many bands of pirates who harassed the coast-trade from Gujarat southwards, and later gave their name to a hill and promontory of our Island."[1] During the middle ages the superior enterprise and military power of the Arabs, Egyptians and Persians gave them the complete control of the Indian trade, and although it is recorded that the early Portuguese expeditions across the Indian ocean were piloted by natives of Gujarat, yet the Portuguese writers speak of the commerce of Western India as being at the end of the 16th century wholly in the hands of the Moors. According to Lafitau this commerce "almost entirely passed by fleet or caravan through the territories of the Sultan or Khalif of Egypt, who had Syria as far as the Euphrates and part of Arabia. He took at least 5 per cent. on goods in his own ports, and got at least double this amount from the Venetians, Goanese and Catalans in the Mediterrane." These were his principal revenues and the interruption of Indian commerce by the Portuguese, who waged a merciless warfare at sea against the Moors and would be satisfied with nothing less than the complete monopoly of the trade, "ruined him and his

[1] Edwardes' Rise of Bombay, pp. 16 and 17.

subjects." The Egyptian Sultan appealed to the Pope to put a stop to the encroachments of the Portuguese, but Rome naturally rejoiced in the successes of these champions of the true religion. The Sultan then (1507) aided, it is said, by the Christian powers of the Levant, who were alarmed at losing the profits of the trade with the East, fitted out a fleet in the Red Sea, which sailed across the Indian Ocean to the coast of Gujarat and, after a few successes against the Portuguese, suffered a final and disastrous defeat. Egyptian efforts to recover a share of the Indian trade were brought to an end by the Turkish conquest of Egypt in 1517, and the valuable commerce of the East with Europe was diverted for more than three centuries to the route round the Cape of Good Hope, though it has now been restored to its ancient channel by the opening of the Suez Canal.

Under the rule of the Portuguese the trade of Bombay was infinitesimal and was confined to the sale of dried fish and cocoa-nuts to neighbouring coast-towns ; and in truth the anxiety of the East India Company to secure the island arose not so much from the idea of converting it into a flourishing mart as from the desire to possess a secure and isolated position on the Konkan coast.[1] Between the date of the cession of the island to England and its transfer from the Crown to the East India Company the trade of the island was greatly hampered by the jealous restrictions of the Portuguese, and in spite of the decision of the Surat Council to build a Factory here[2] and to constitute it the head-quarters of the Company's Governor[3], and in spite of efforts to render the island an asylum for merchants of all denominations, Fryer could not but record that the trade of the place in 1675 was very small.[4] Under the rule of Aungier an appreciable advance was made. In 1670 the local trade was confined to bullion, which was free for five years save for a custom-

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[1] Bombay Gazetteer, XXVI. I. 87, and *Ibid* XIII. II. 472 and XXVI. I. 1, note 2.

[2] Surat to Court, January 1st, 1666. Bruce's Annals, II. 241-42.

[3] Bombay Gazetteer, II. 96-97 and XXVI, Part I, 56.

[4] Bombay Gazetteer, XIII, II, 476 and Milburns' Oriental Commerce I. 173.

house tax of 1 per cent., wine, tobacco, opium, cocoa-nuts and "cairo" (coir), while the chief imports from England were cloth, copper, lead, and silver. But four years later Aungier was able to record the import from England of several kinds of cloths, serges, lead, tin, copper, quicksilver, vermilion, red-lead, cochineal, coral, iron and ivory, and the export from Bombay of cloths, *baftas*, *dungaris*, *porcolloes*, pepper, drugs, and calicoes[1]. Aungier was firmly convinced of Bombay's enormous potentialities for trade, and in December 1673 pointed out to the Court of Directors that an appreciable advance had been made.[2] "Before this time" he wrote "the English trade was only in cocoanuts and cairo. Now the country merchants drive a great trade with Surat, Broach, Cambay and Gogo, and also to Dabull, Kelsey, Rajapore, and Goa, to Mocha, Persia, Scinda, Bussora, in salt, cocoanuts, cairo, betel-nut, rice, elephants' teeth (from Mozambique), broad-cloth, lead, sword-blades and some other Europe goods. Last year (1672) we disposed in Bombay of 600 pieces broadcloth, 3,000 maunds lead, all the perpetuanes and serges, and all the sword-blades. Trade by sea and land is interrupted by the presence of the Mughal and Sivaji fleets and armies. We are trying to open trade with Tunneer (Junnar?) Orungabad, Raygad, Hubli, Vizapore; with Mocha, Persia, Bussora, Scinda and Patan, the Maldives and Malabar Coast; whence we shall get myrrh, aloes, olibanum, cohoseed, tinkall, sena, red earth, carminia wool, putchock, skines, corryes, pepper and cardamoms and other goods proper for Europe and the south seas."

The duty imposed by the Company at the Bombay Custom House amounted to 2½ per cent. plus one per cent. towards the cost of fortifications, but special rates were imposed on certain classes of goods. Tobacco paid 8 per cent., iron 8 per cent., horses on being sold

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1 Surat to Court, 30th March 1670 and 12th July 1672, Aungier to Court, 15th Jan. 1674.

2 Aungier to Court, Dec. 15, 1673. He was more sanguine than the Deputy Governor and Council, who in 1677 remarked that commercial expansion was "in posse, and to be prayed for" (Bombay Gazetteer, XXVI. Part I. 59-61).

3½ per cent. and ships on being sold 5 per cent., while as regards exports all goods were subject to a duty of 3½ per cent. except cocoanuts which paid 8 per cent., coir which paid 8 per cent., and fish, salt, cadjan cables and coir ropes and onions which also paid 8 per cent. Free import and export was however permitted to gold, silver, jewels, ambergris, precious stones, pearls, "beazor stone", musk, amber, "coines of copper," and tin; while if a vessel was forced by foul weather to anchor in Bombay harbour against her will, no duty was charged on the cargo unless any portion of it was sold upon the island, in which case a duty of 3½ per cent. was charged. Any *Nakhuda* who did not supply an import manifest on demand was fined Rs. 100, while a quarter of any goods unloaded at places other than the Bombay and Mahim custom-houses was forfeited to the Company. The relations of Bombay with the Portuguese are to some extent ascertainable from the fact that tobacco imported from any part of the Portuguese dominions was liable to a special duty of 9 per cent.

Between 1664 and 1688 Bombay gradually developed into the chief centre of English commerce with Western India,[1] and considerable impulse to trade was afforded by the decision of the Company in 1687 to transfer the headquarters of the Company's trade from Surat to the island.[2] Between 1690 and 1710 however a period of great depression set in, owing to the rivalry between the London and the English East India Companies and to the hostility of the Mughals, Marathas and Portuguese, and trade languished so greatly that, according to Hamilton, the Governor, Sir John Gayer, preferred a prison in Surat, where he could employ his money, to Government House in Bombay where there was no chance of trade.[3] On the union of the London and English companies in 1708 a new system of trade was introduced of which Neill (Vol. III. Chap I.) gives a complete account. The Company's goods were from this date conveyed chiefly in hired ships, and the Company

1 Bombay to Court, March 25, 1675.

2 Bombay Gazetteer II. 98 and XXVI. I. 87.

3 Bombay Gazetteer. XIII. II. 485.

only kept "some swift sailing packets and a very few trading vessels. The articles composing the import trade to England were chiefly calicoes and other woven manufactures of India, raw silk, diamonds, tea, porcelain, pepper, drugs and saltpetre. The official value of the imports in 1708 was £493,725, and their average annual importation for this and the nineteen following years was £758,042. The Company exported lead, quick-silver, woollen cloths, hardware and bullion to the average amount for the same twenty years of £634,638, of which sum four-fifths was bullion." Owing to the confusion prevailing throughout India, the Company forbade its servants to distribute its goods in the interior, this business being left to native and other independent dealers. For the purchase of goods for export, agents were employed. Warehouses or factories were built and fortified as places of deposit, and the European agents made advances to the native weavers while engaged at work on the cloth which they required. The *Kacheri* was at the outset the place of business of the *gumasta* (clerk or cashier) employed by the Company's European agents to arrange with the employers of the work-people and fix the price of the cloth when finished. Bombay profited directly from the new system thus introduced, and from the determination of the Court of Directors[1] to render her the first port on the Western Coast of India, and during the whole course of the eighteenth century she was steadily advancing in wealth and importance. In 1753, for example, "some very considerable bankers from Aurangabad and Poona" opened business in the island, attracted hither by the fact that Bombay had become the centre of trade between Western and Upper India and between the Malabar Coast, the Persian Gulf and the Red Sea. In 1757 Ives described the town as the most flourishing in the world, "the grand store-house of all Arabian and Persian commerce," while another writer speaks of the sale of woollens and other

[1] In 1719 the Court recommended that ships of Madras and Bengal should always call at Bombay "where they should have such fair and just usage as might invite their return." (Bombay Gazetteer XXVI. I. 255.)

European goods to the extent of 14 lakhs a year.[1] Nine years later (1766) Forbes described the merchants of Bombay as trading with all the principal seaports and inland cities of India, and as extending their commerce to the Persian and Arabian Gulfs, the coasts of Africa, Malacca and China and the eastern islands.[2] A temporary check to the tide of prosperity was witnessed in 1776 when the Marathas intervened and prevented goods of considerable value from being sold ;[3] but the disturbed condition of the mainland eventually resulted in driving fresh relays of merchant folk to Bombay, who contributed to the increase of trade animadverted upon by Forbes in 1783 and by Franklin in 1786.[4] At the opening of the 19th century, from which date (1801) a Reporter of External Commerce was appointed for the record of details of Bombay trade, Bombay appeared to Milburn "to bid fair to be the most durable of all the English possessions in India."

Character of trade. 1660—1800.

Prior to 1710 the chief marts in the Persian Gulf were Gombroon, with its English and Dutch factories, Cong, a place of little trade, Bushire with a fair trade, and the two great cities of Basra and Baghdad, which had suffered considerably from pestilence and from the Turkish conquest. On the west of the Gulf lay Muscat, strongly fortified and well-stocked with merchandise, and on the east coast of Arabia were Kuria-Muria, Doffar and Kasim—inhospitable posts with a small commerce. Aden was a place of little importance, its trade having passed to Mocha where were both English and Dutch factories. Of the Red Sea marts Jedda on the east coast and Massua on the west were the most important. On the east coast of Africa Magadoxo, Patta, Mombasa and Mozambique had little trade with India, owing partly to the presence of the English pirates of Mozambique and partly to the fact that the coast as far south as Mombasa had lately (1692-98) passed from the hands of the Portuguese into the possession of

[1] Bombay Gazetteer. XIII. II. 499.

[2] See also *Ibid* p. 500.

[3] *Ibid* XXVI. I. p. 406.

[4] *Ibid* XIII. II. p. 511 and note 2.

the Imam of Muscat. South of Mombasa the Portuguese maintained a little traffic with Sena and the English with Natal. Passing east by the south of India, the rich trade of Ceylon was almost entirely in the hands of the Dutch and English; while on the east coast of the Bay of Bengal the chief centres of trade were Chittagong, Arakan, and Syrian, the only open port in Pegu, whose position had suffered severely from its conquest by the Burmese. Further east were Mergui and Tenasserim, Malacca where the Dutch were predominant, Achin in Sumatra which was a rich and important mart for Indian goods, and Bencolin, also in Sumatra, with an English colony. The spice-trade of Java and Borneo was in the hands of the Dutch; Siam and Cambodia were rich and desirous of trading with the English; while Tonkin was a port of considerable mercantile importance. In China, "the richest and best governed empire in the world", the chief ports for English trade were Canton, Amoy, and Souchou, out of which Amoy was closed to English commerce during the 18th century by order of the Emperor. With Japan the English had no trade, for in 1655 the Japanese had risen against the Portuguese and the Dutch took advantage of the marriage of Charles II with the Infanta Catherine to persuade the Japanese to close their ports to English traders.

Outside India, the ports in the Persian Gulf accepted Indian cloth and timber and European broad-cloth and hardware, and exported dates, rose-water, dry fish and horses. The eastern Arabian ports imported coarse calico, and exported myrrh, olibanum, frankincense, pearls, horses and red resin. Aden exported horses of good breed but costly, £50 being considered a small price for one. Mocha exported coffee, myrrh and frankincense; Socotra exported aloes; and the ports of Abyssinia exported gold, ivory, slaves, coffee and ostrich feathers. Ceylon was famous for its cinnamon, emeralds, sapphires and cat's eyes; Syrian in Pegu imported Indian goods, European hats, and silver and lead which was current as money and exported timber, ivory, lac, iron, tin, oil, rubies and diamonds; while Achin and Bencolin in Sumatra took large quantities of Indian goods and

exported gold-dust and ivory. Siam was rich in timber, Cambodia sent out ivory, stick-lac, gum and raw silk; while Tonkin was noted for its gold and copper, raw silk, lacquer-ware and coarse porcelain. The Chinese ports imported putshee from Cutch as incense and exported gold, copper, raw and wrought silk, lacquer-ware, porcelain, tea and rhubarb. Gold was plentiful in Japan, and its earthenware, lacquered work and silks were in many respects better than the corresponding manufactures of China. From England came lead, barrels of tar, sword-blades, penknives, spectacles, looking-glasses, hubble-bubbles, rose-water bottles, guns, and flowered cloth, green, scarlet and white. The exports from India to England were indigo, pepper, coffee, drugs, cotton-wool, cloth, cotton, myrrh, aloes, salt-petre, book-muslins and *dorias*.

The trade between Bombay and other ports of the Thana coast was chiefly in grain, vegetables, fruit, fowls and mutton for the Bombay market, and in teak from Bassein for house-building and ship-building. The trade was much hampered by the exorbitant demands of the Portuguese and by taxes imposed in Bombay, while a regular barrier of customs-houses, English, Portuguese and Maratha, and the disturbed condition of the Deccan prevented any considerable inland trade. The Portuguese for example levied a duty of 33 per cent. and a transit-fee of 20 per cent. on all timber passing Bassein, added to which were import duties of 5 per cent. in Bombay, 8 per cent. in Thana, and arbitrary exactions in Kalyan.[1] Gujarat exported corn, cloth and cotton, and the ports of Kathiawar yielded cotton, corn, cloth, pulse and butter, and imported pepper, sugar and betel-nut. The only exports from the south Konkan were cattle from Janjira and arrack from Goa; but Kanara exported timber and the Malabar Coast rice, sandalwood, pepper, betel-nut, iron and steel. The eastern Madras ports furnished diamonds, the best tobacco in India, and first-class chintz, while Calcutta exported saltpetre, piece-goods, silk, and opium.

[1] Bruce's Annals, III, 239.

By the close of the third decade of the 18th century Bombay's commerce was in a most flourishing condition. Forbes described the port between 1766 and 1770 as one of the finest marts in India, employing a large number of vessels. Basra, Muscat, Ormuz and other ports in the Persian Gulf furnished it with pearls, raw silk, carmenia wool, dates, dried fruits, rose-water and attar; Arabia supplied it with coffee, gold, drugs and honey; while a number of ships annually freighted with cotton and bullion for China returned laden with tea, sugar, porcelain, wrought silk, nankins, and a variety of useful and ornamental articles. The cotton trade with China commenced about 1770.[1] "A considerable famine which happened at that period induced the Chinese Government to direct by an Imperial edict that a greater proportion of the lands should be thrown into the cultivation of grain"; and the demand for cotton which then arose increased till, it is said, "the scanty supply during the Maratha War, the inattention to the quality, and the many frauds that had been practised" prompted the Chinese to grow cotton again for themselves. It is quite possible that the falling-off in the Chinese demand about the year 1800 was due to the interference of the East India Company with what had been till then an open trade, for the result of this change was nearly to double the price of cotton wool. From Java, Malacca, Sumatra and neighbouring places Bombay vessels brought spices, ambergris, perfumes, arrack and sugar; while the cargoes from Madagascar, the Comorro Isles, Mozambique and other ports on the east coast of Africa consisted chiefly of ivory, slaves and drugs. The various districts of India produced cotton, silk, muslin, pearls, diamonds and every precious stone, ivory, sandalwood, pepper, cassia, cinnamon and other luxuries, and this valuable commerce was carried on by the European and native merchants of Bombay independently in many cases of the trade of the East India Company. The exports consisted of English woollens of every kind, copper, iron and lead which were purchased by native dealers at the Company's periodical sales, while a

[1] Maclean's Guide to Bombay, page 105.

great deal of cotton imported by boat from Surat, Broach, Amod and Jambusar, was transhipped at Bombay into large vessels bound for Madras, Bengal and China. French, Dutch and Danish ships seldom touched at Bombay; the intercourse between India and America was then in its infancy; and the Portuguese trade with Bombay from Goa, Daman and Lisbon was trifling.[1]

Bombay, it is true, could not herself furnish any considerable article of export or even food sufficient for her own people; but every European and Asiatic commodity was procurable within her limits. Hamilton remarked that Bombay was the very best mart for gums, drugs, Mocha coffee, cornelians, agates and Surat fabrics; and besides being the chief emporium for the goods of Persia, Arabia and Western India, she possessed a larger trade with England than any of the other Presidencies. Subsequent to the fire of 1803 the import of miscellaneous British goods rose to a wholly abnormal figure, in consequence of the replenishment of destroyed stocks. At the outset of the 19th century the Asiatic or country trade, so called because it was carried with Indian ships and Indian capital, was wholly in the hands of private persons.[2] There were five European houses of agency, *viz.*, Bruce, Fawcett & Co., Forbes & Co., Shotton & Co., John Leckie, S. Beaufort; and four European firms of wine-merchants and shop-keepers, *viz.*, Baxter, Son & Co., John Mitchell & Co., Wooller & Co., and R. McLean & Co[3] The agency-business did not give a large return; but all these firms indulged in mercantile transactions on their own account which proved extremely lucrative, particularly where the firms were themselves the owners of ships.[4] The fact that independent European firms were not more numerous was chiefly due to the dominance of the East India Company which retained the bulk of the foreign trade in its own hands until 18·3 when Lord Melville carried through Parlia-

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[1] Forbes' Oriental Memoirs, I, 153-154. Bombay Gazetteer, XXVI, II, 524, Note 2.

[2] Bombay Gazetteer, XIII, II, 518.

[3] *Ibid*, p. 516 and Note 7 and p 517 Note 2.

[4] Milburn's Oriental Commerce, Vol. I, 171.

ment a bill abolishing the exclusive trade of the Company with India, but securing to it for twenty years longer the monopoly of the China trade. In addition to the European firms above mentioned, Bombay contained in 1805 16 leading Parsi firms, 2 Parsi China agencies, 3 Portuguese, 4 American, 15 Hindu firms and 4 Bohra firms.[1]

Among the most important articles exported from Bombay during the eighteenth century were "Surat goods," pepper, and "cotton wool." "Surat goods" were piece-goods of various dimensions and qualities, manufactured at Broach, Jambusar and other Gujarat centres and exported thence to Europe, the Arabian and Persian Gulf, the Malay coast, and the inland cities of India.[2] Pepper was produced on the Malabar Coast, in Sumatra and other islands and was largely exported to British settlements in India, to China and various ports of Europe, the pepper of the Malabar Coast being considered the best, and that from Palembang and Borneo the least good. The following table shows the imports and exports of pepper in Bombay from 1770 to 1809:—

Year.	Imports in lbs.	Exports in lbs.
1770 to 1779	23,538,798	18,601,648
1780 to 1789	22,688,222	17,579,468
1790 to 1799	39,403,337	32,721,024
1803 to 1809... ...	21,094,823	15,531,729

As early as the last quarter of the 17th century considerable attention was paid to the exportation of raw cotton,

[1]Bombay Gazetteer, XIII II, 517; Milburn's Oriental Commerce, I, 171; Douglas' Glimpses of old Bombay. Mrs. Elwood (Overland Journey, London, 1830), remarks that there were few English shopkeepers in Bombay at this date, the retail trade being principally in the hands of Parsis.

[2]The various kinds of Surat goods were known by the names of *Annabatchies, Bombay Stuffs, Byrampauts, Bejutapauts, Brawls, Batellis, Chelloes, Chintz, Dooties, Guinea Stuffs, Longcloths, Lemmanis, Musters, Nunsaris, Negampauts, Niccanis, Salempores, Brown Stuffs, Large and small Tapseils.* Considerable quantities of these piece-goods were imported into Europe by the French and Dutch in the middle of the 18th century. (Milburn's Oriental Commerce, I, p. 289).

which was of four qualities, *viz.*, Bourbon, Surat, Bengal and Madras, and in 1684 attempts were made to save freight by compressing it into bales by machinery,[1] for which purpose the Company sent out "a screw or engine." In 1697 the machine in Bombay appears to have been out of order, for the Governor writing to Surat in March of that year remarked:—"One of the nuts of our cotton screw being broken, we have in vain endeavoured to get a piece of timber in the country to make a new one. Therefore, do you send us as soon as possible one or two pieces of cominba timber"—an extract interesting as proof of the slenderness of Bombay's resources at this date and of her dependence upon Surat, even at the end of the 17th century.[2] A great impulse to the export of raw cotton to England was afforded by the passing of Lord Melville's bill of 1813, which practically killed the export trade in piece-goods. In 1783, according to Royle, the imports of cotton into England aggregated 114,133 lbs. In 1790 the Directors of the East India Company, at the instance of the manufacturers, imported 422,207 lbs., but the speculation did not answer; and again in 1809, at the period of the American Non-Intercourse Act, the Directors imported 30 million lbs. of which 1¼ million lbs. only were utilized by British manufacturers and 3¼ million lbs. were exported to the Continent. This unlucky venture determined the Company to import no more, even when the American War broke out. "But after the peace a general revival of trade took place, and the imports of cotton rose in 1816 to 90 million lbs."; and from that period the importation into Great Britain has with occasional temporary checks steadily increased.[3]

[1] Douglas' Bombay and Western India, I, 64. The first mention of cotton as an article of trade occurs in a work entitled "The Process of English Policy" (Hakluyt's Voyages), wherein it is stated that "Genoa resorts to England in her huge ships, named carracks, bringing many commodities as silk, pepper, wool, oil, cotton, etc." In all probability England was supplied with cotton from the Levant prior to 1430.

[2] In 1693 Sir John Gayer was instructed by the Court of Directors to always "have in readiness a large quantity of pepper and cotton-wool, to meet the arrival of the shipping."

[3] Maclean's Guide to Bombay, p. 107.

Condition of Trade. 1800—1907.

From the year 1795 a steady increase was noticeable in the external commerce of Bombay, which the Reporter of External Commerce attributed in his report for 1802-03 to the reduction of customs duty from 6 to $2\frac{1}{2}$ per cent. in 1795 and to the continuous immigration of native traders from Surat. This was followed in 1813 by the passing of Lord Melville's Bill, referred to above, which destroyed the commercial character of the Company and threw open the trade of India to the merchants of Liverpool, Glasgow and other great trading centres. In 1833-34 when the last trace of the Company's commercial importance was about to disappear, the total trade of the island fell short of 700 lakhs: but as the subjoined table will show, this figure had extended in a phenomenal manner by 1858-59:—

	Bombay Imports.		Bombay Exports.	
	1833-34	1858-59.	1833-34.	1858-59.
	Rs.	Rs.	Rs.	Rs.
Merchandise ...	2,66,74,031	11,69,42,181	4,05,88,135	14,36,44,235
Horses ...	6,44,425	26,25,000	2,51,190	*nil.*
Treasure ...	1,19,90,127	6,42,48,229	19,50,512	1,58,64,590

The value of the total trade of Bombay amounted to 406 lakhs in the year 1801-02, and averaged 560 lakhs a year during the decade ending 1809-10. During the following decade (ending 1819-20) the average decreased to 467 lakhs; but the check was only temporary, for from the third decade onwards the average annual value has steadily increased. For the ten years ending 1829-30 the average value was 566 lakhs; it rose to 822 lakhs in the next period, to 1.924 lakhs in the decade ending 1849-50, and to 2,620 lakhs in the decade ending 1859-60. The four subsequent decades gave an average value of 5,691, 5.199, 8,506, and 10,170 lakhs, while during the period from 1900-01 to 1906-07 the average reached 11,911 lakhs.

The following table shows in lakhs the average and total value of the foreign and coasting trade of Bombay between 1801-02 and 1906-07:—

	Year.	Foreign	Coasting	Total.
		Lakhs.	Lakhs.	Lakhs.
Total value in	1801-02	176	230	406
Average value for decade ending—	1809-10	229	330	559
	1819-20	259	208	467
	1829-30	441	125*	566
	1839-40	664	158*	822
	1849-50	1,070	854	1,924
Total value in	1850-51	1,367	1,177	2,544
Average value for decade ending—	1859-60	1,947	672	2,619
	1869-70	4,884	807	5,691
Total value in	1870-71	4,063	580	4,643
Average value for decade ending—	1879-80	4,154	1,045	5,199
	1889-90	6.754	1,752	8.506
	1899-00	8,057	2,112	10,169
Total value in	1900-01	6,973	2,547	9,520
Average value for period ending—	1906-07	9.577	2,334	11,911

* Complete figures of the coasting trade for these two decades are not available.

Meanwhile Government's transactions in treasure and stores also showed a steady increase. In 1853-54 they were valued at 16 lakhs, which rose to 47 lakhs in 1860-61, 72 lakhs in 1870-71, 213 lakhs in 1880-81, 275 lakhs in 1890-91 and 1,690 lakhs in 1900-1901. The abnormal rise in the last mentioned year was due to increased imports and exports of treasure, the imports consisting chiefly of silver and the exports of sovereigns

The following table shows in lakhs the progress of imports and exports in merchandise and treasure with foreign countries from the year 1801-02 to 1906-07:—

	Imports.			Exports.				
				Merchandise.				
	Merchandise.	Treasure.	Total.	Foreign.	Indian.	Total.	Treasure.	Total.
Total value in 1801-1802 ...	72	22	94	...	...	80	1	81
Average in the decade ending								
1809-10...	73	57	130	...	...	98	1	99
1819-20...	93	53	146	...	...	107	5	112
1829-30...	149	78	227	...	...	204	8	212
1839-40...	195	107	302	...	...	351	10	361
1849-50...	324	181	505	...	...	499	66	565
Total value in 1850-1851 ...	454	236	690	...	...	660	16	676
Average of the decade ending								
1859-60 ..	539	442	981	289	628	917	48	965
1869-70...	1,196	1,009	2,205	157	2,458	2,615	63	2,678
Total value in 1870-1871 ...	1,152	331	1,483	...	...	2,482	97	2,579
Average of the decade ending								
1879- 80...	1 229	577	1.806	169	2 032	2.201	117	2.348
1889- 90...	2,224	1 095	3.319	279	3.052	3.331	102	3.433
1899-1900...	2,677	1,335	4,012	328	3.229	3.557	488	4,045
Total value in 1900-1901 ...	2,634	976	3,610	...	...	2,716	646	3,362
Average from 1900-1901 to 1906-1907...	3.139	1,616	4,755	254	3,889	4,144	677	4,821

Up to the year 1869-70 the import trade of Bombay was confined chiefly to the United Kingdom, China and the Persian Gulf, though a very small portion of the trade was possessed by France, Germany and Portugal. Owing to the abolition of the East India Company's monopoly and the opening of the Suez Canal (1869), the current of trade from 1870 showed a disposition to

return gradually to the channels used before the discovery of the passage round the Cape. The cities of the Mediterranean commenced once again to receive and profit by that share of the Eastern trade which was theirs before the Portuguese filched it and transmitted it in succession to the Dutch and the English. London still retained its supremacy and monopolized about 60 per cent. of the trade of the Indian Empire, but Trieste, Venice, Genoa and Marseilles played an increasingly important part in commercial rivalry. Ten years after the opening of the Suez Canal (1879-80) Italy had acquired an annual share of 13 lakhs in the Bombay trade, which expanded during the three successive decade to 17, 28 and 64 lakhs respectively. Next followed Austria-Hungary whose trade with Bombay was valued at 8 lakhs in 1879-80 and has now (1906-07) risen to 135 lakhs, while from the year 1880-81 Belgium, Germany and Russia commenced to acquire an appreciable share, the respective value of which rose from 18, 7 and 12 lakhs during the decade ending 1889-90 to 134, 126 and 72 lakhs during the decade ending 1906-07.

Excluding China and the Persian Gulf, the Straits Settlements, Ceylon and Arabia likewise profited during the same period, their respective shares during the years 1900-01 to 1906-07 being valued at 28, 8 and 57 lakhs, while Japan, which during the decade ending 1899-1900 had a share of 22 lakhs only, has during the last seven years augmented that figure to 55 lakhs. Among African ports, Mauritius alone is important as a great sugar-exporting centre and has contrived to raise the value of its connection from 30 lakhs during the decade ending 1869-70 to 170 lakhs during the period between 1901 and 1907. In the same way America, which chiefly supplies kerosene oil and which possessed practically no trade in Bombay till 1879-80, acquired a share aggregating at successive periods since that date 22, 34 and 56 lakhs.[1]

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1 For a graphic account of trade during the forty years 1861-1901, see H. J. Tozer's paper read before the Society of Arts, London, on March 14th, 1901.

During the first half of the nineteenth century the export trade of Bombay was confined chiefly to Asiatic countries and the United Kingdom; but subsequent to 1870 other European countries, headed by France, commenced to acquire an increasing share. The value of these shares in lakhs at successive periods is shown in the following table :—

	1870-71 to 1879-80	1880-81 to 1889-90	1890-91 to 1899-1900	1900-1901 to 1906-07
France	180	452	456	394
Belgium	5	229	267	314
Germany	13	36	199	262
Italy	74	275	212	229
Austria-Hungary ...	91	173	137	156
Spain	4	20	13	43
Holland	13	25	45	39

Among Asiatic countries, China, Arabia, Ceylon and the Straits Settlements alone had a small share in the export trade of Bombay before 1850; but about that date Aden, which caters partly for Arabia and partly for Africa, acquired a share which was valued at 100 lakhs between 1900-01 and 1906-07. Japan likewise had acquired an interest valued at 43 lakhs during the decade ending 1889-90, which increased during the seven years ending 1906 07 to 442 lakhs. Exports to Turkey in Asia, on the other hand, which were valued at 63 lakhs during the ten years ending 1879-80 have now (1906-07) decreased by about 15 lakhs. The exports from Bombay to Australia and America are very small, but the direct exports to Africa which commenced in 1800 have risen in value from 28 lakhs in 1860-70 to 169 lakhs during the last seven years.

The following tables show in lakhs the value of the principal articles of commerce imported into and exported from Bombay since the year 1800.

Exports.

Articles.	1800-01 to 1809-10	1810-11 to 1819-20	1820-21 to 1829-30	1830-31 to 1839-40	1840-41 to 1849-50	1850-51 to 1859-60	1860-61 to 1869-70	1870-71 to 1879-80	1880-81 to 1889-90	1890-91 to 1900-01	1900-01 to 1906-07
Cotton, Raw .	61	54	79	63	51	267	1716	1043	1126	859	1288
Do. twist and yarn	·32	·05	·28	·62	3	·06	4	38	286	587	850
Do. manufactured ..	6	9	25	27	8	4	16	16	51	71	52
Opium	·14	·09	80	117	166	258	579	614	461	316	271
Oilseeds.. ..	·03	·01	..	·04	2	35	25	80	417	612	677
Wheat	..	..	...	...	·18	3	1	24	367	231	90
Wool, Raw ..	..	..	·01	2	7	19	50	64	71	72	80
Total exports .	67	63	184	210	237	586	2391	1879	2779	2748	3308

Imports.

Articles.	1800-01 to 1809-10	1810-11 to 1819-20	1820-21 to 1829-30	1830-37 to 1839-40	1840-41 to 1849-50	1850-51 to 1859-60	1860-61 to 1869-70	1870-71 to 1879-80	1880-81 to 1889-90	1890-91 to 1899-1900	1900-01 to 1905-07.
Cotton piece-goods ..	·09	3	28	49	88	195	442	439	731	729	824
" twist	..	·3	2	56	23	33	56	66	98	71	59
Silk manufacture	4	4	4	3	6	7	19	27	62	91	120
" Raw	3	7	15	15	19	28	49	60	74	80	58
Wool manufacture ..	·02	..	..	5	4	8	21	23	46	64	89
Metals	7	9	10	19	34	*45	*136	99	185	212	263
Machinery	..	..	..	·01	·6	5	25	15	72	114	135
Sugar	12	12	15	15	28	22	45	70	138	186	272
Liquors	3	4	6	8	10	213	369	340	322	450	386
Kerosene oil	..	..	..	..	..	..	·1	4	29	81	91
Alizarine	..	..	..	..	..	..	..	..	..	14	21
Aniline	..	..	..	..	...	..	..	2	11	31	33
Total imports .	29	39	80	170	212	†556	†1162	†1165	1768	2123	2351

*In these two decades the figures of hardware are taken up under metals which appear separately recorded from 1870-71.

† In these three decades the articles of stores imported on account of the Government are amalgamated with private trade in the general returns of Imports and Exports.

Imports, Cotton Piece-goods.

The chief contributor to the import trade in cotton piece-goods is the United Kingdom. "The export of cotton manufactures from India to England," writes Maclean, "began to decline towards the close of the 18th century, and became quite insignificant soon after the beginning of the 19th century. About the same time (1813) that the ports of India were thrown open to English merchant adventurers, protective duties of 70 and 80 per cent. were imposed in Great Britain on cotton and silk manufactures from India and some kinds of these goods were absolutely excluded." England profited not a little from this protection: for the value of the piece-goods imported thence into Bombay, which amounted to only Rs. 8,000 during the decade ending 1810, had increased during the ten years ending in 1840 to nearly 49 lakhs. Certain writers have passed somewhat severe strictures on this protective policy declaring that "up to this period (1813) the cotton and silk goods of India could be sold for a profit in the British market at a price from 50 to 60 per cent. lower than those fabricated in England, and that the Indian mills were created by the sacrifice of the Indian hand-industry." But they have forgotten that England had other markets to look to besides India. She could have obtained her supply of raw cotton from America and have manufactured cheap goods for all the world except India; and if the Indian manufactures had really been so much cheaper than those she could produce, they would never have been displaced in the Indian markets by English piece-goods. It was some time however before British manufactures began to supplant the manufactures of India in their own home. Lord Castlereagh stated in the debates of 1813 that in the previous twenty years the export of cotton manufactures to India had increased from £2,000 to £108,000 and was clearly a growing trade. Mr. Sullivan said, about the same time, that the average export of manufactured cottons from 1792 to 1796 was £730, while between 1807 and 1811 it was £96,980. From these small beginnings the trade grew rapidly, increasing every year. In the decade ending 1850 the value of imported cotton piece-goods was nearly 88 lakhs, which rose to 723 lakhs in

the decade ending 1890. In 1893-94 the trade sustained at check. The returns showed an enormous decrease, result brought about by the large stocks of the previous year, the low rate of exchange, and also to the closure of the mints and the consequent disturbance of exchange with the silver-using countries of the further East. A recovery afterwards took place, and for the period between 1901 and 1907 the total value of the trade was nearly 779½ lakhs. Other countries of Europe also have a share in the trade. In 1880 Austria-Hungary and Italy had exported to Bombay during the preceding decade goods to the value of 1 lakh and 2⅔ lakhs respectively, which rose during the seven years ending 1906-07 to 7⅓ and 10 lakhs respectively; France during the ten years ending 1890 contributed to the extent of 2½ lakhs, but has failed to retain her position in the trade since that year; while during the period ending 1906-07 Belgium, Germany and Holland have respectively introduced into Bombay goods valued at 6⅓ lakhs, 4½ lakhs and Rs. 67,000. The importation of cotton piece-goods from America commenced during the decade ending 1890 and amounted to about 9 lakhs during the period ending 1906-07.

Silk Manufactures.

Until 1870 the imports of silk manufactures were chiefly from China and aggregated approximately 6 lakhs in value in each successive decade; but immediately prior to 1870 the United Kingdom commenced to send silk piece-goods to Bombay and was shortly followed by France and Italy. During the ten years ending 1870 imports from England amounted to about a lakh and have increased to 10 lakhs during the period commencing 1900-01. In the same way the imports from France and Italy which aggregated one and 1¾ lakhs respectively at the outset have during the last decade improved to the extent of 18 and 16 lakhs. By 1890 Austria-Hungary had joined in this branch of trade and was responsible for 7 lakhs' worth of imported piece-goods during the last ten years. Among Asiatic countries Egypt commenced to send silk manufactures to Bombay between 1861 and 1870, while Japan joined in with a share of 6 lakhs between 1891 and 1900.

Machinery and Mill requirements. The United Kingdom has practically a monopoly of this trade, the imports from Germany and America being trifling. Probably the first spinning machinery and the first engines used in India were made by Messrs. Hetherington and Company and Messrs. Benjamin Goodfellow, respectively ; but at an early period of the mill-industry Messrs. Platt Brothers and Messrs. Hicks, Hargreaves and Company had practically the monopoly of their respective branches. Of recent years the largest imports of mill machinery and engines, etc., have been from Messrs. Howard and Bullough, Benjamin Goodfellow and Messrs. Tinker, Shenton and Company.

Woollen Manufactures. The import of woollen piece-goods from the United Kingdom commenced at the opening of the nineteenth century and rose in value from a few thousands of rupees in 1810 to nearly 5 lakhs in 1840. Between 1900 and 1907 the trade from Great Britain was valued at 60½ lakhs. The chief competitor in the trade is Germany which acquired a share valued at nearly Rs. 10,000 prior to 1850 and during the year 1907 imported into Bombay 19 lakhs' worth of goods. Other countries which have a share in the trade are Belgium and France, which contribute imports valued at the most recent date at one lakh and 2 lakhs respectively. Egypt has possessed a small share since the year 1850, but it compares but ill with the Persian imports, which were valued at one lakh in 1890.

Cotton Twist and Yarn. In the year 1820 the imports of twist and yarn from the United Kingdom were valued at nearly 4 lakhs of rupees which had risen during the decade 1880-90 to nearly 96½ lakhs. But in the year 1891-92 the total value of imports decreased by 19 lakhs in consequence of the small supply from the United Kingdom and Austria. This diminution was the natural outcome of an accumulation of stocks and of the low rate of exchange. The decline continued in 1892-93, receipts falling off to the extent of 24 per cent. In the following year, however, a certain amount of speculation was rife and brought about a small rise in the trade to the extent of 5½ lakhs in value. In 1895-96 there was a substantial recovery from the low level of the preceding three years, but the trade is not progressive owing to the competition of yarns made in Indian mills.

As one after another of these has been established in different parts of the country, and as railway development has placed these yarns and the clothes made from them within easy reach of the people, the area within which handloom-weaving is practised has been slowly restricted and the demand for the foreign yarn used for such weaving has proportionately diminished. Its place has been taken by Indian yarn spun in the mills of this country. The imports of yarn from Austria-Hungary and Italy are valued at between one and two lakhs apiece.

Raw Silk.

The principal countries which provide Bombay with raw silk are China, Persia and the Straits Settlements. In 1810 the imports from China were valued at more than 3½ lakhs; considerable fluctuation took place about the middle of the 19th century, the value of the trade decreasing to about 1 lakh in 1840; but from 1850 a revival had taken place and the value rose to 75 lakhs between 1891 and 1900. Between 1901 and 1907 the value of China's trade in this commodity stood at 55 lakhs. China has in fact benefited at the expense of Persia and the Straits Settlements. The former possessed a share in the trade of 3¼ lakhs in 1830; the latter a share of 3 lakhs in 1880; but both countries have been ousted from their position since those dates, and at present their imports are trifling.

Sugar.

Bombay commenced to import sugar from the United Kingdom to the value of a few thousand rupees at the opening of the 19th century, and in spite of the competition of Mauritius sugar which began to be acutely felt between 1861 and 1870 still imports a certain quantity from Europe. In 1907, for example, the average imports from the United Kingdom were valued at 6½ lakhs, from Austria-Hungary at 39 lakhs, from Belgium and France at 2 lakhs apiece, and from Germany at 13 lakhs. The rapid increase of imports from Mauritius has been one of the most noticeable phenomena of the sugar trade, the value of the trade having risen between 1861 and 1907 from 30 lakhs to 169 lakhs. The reason seems to be that the low exchange value of silver rupees is advantageous to Mauritius, which has a silver currency, but places European countries with

a gold currency at a disadvantage; for the prices ruling at Hongkong are too high to permit of European countries competing on equal terms with the cheaper and equally good Mauritius sugar. The fears entertained by the Mauritius planters that their trade to India (now their principal market) would be ruined by the closing of the mints have not been justified, as the importation continues to increase. India takes no less than 57 per cent. of the exportations of this staple from Mauritius. In 1895-96 German sugar was put on the market in large quantities; for the beet crop had been very good throughout an area which had greatly expanded under the ægis of bounties, and outlets had to be found for the large production at very low prices. But the position of Mauritius sugar was never seriously assailed. The Straits Settlements, Java and China also send a certain quantity of sugar to Bombay, Java's share in the trade between 1900 and 1907 being valued at 14 lakhs.

Metals.

The United Kingdom possesses the bulk of the import trade in metals, and has done so since the commencement of the 19th century when its share was valued at 4 lakhs. At the present date (1900-07) the annual value of the import trade from the United Kingdom stands at 155 lakhs. Austria has a share of 7 lakhs, which dates from 1889-90; Belgium a share of 55 lakhs which has risen from 5 lakhs in 1889-90; France has a share of 2 lakhs which dates from 1900; Norway and Sweden contributed imports to the value of 2 lakhs during the last seven years; while Germany which imported metals to the value of 4 lakhs only during the last decade of the 19th century now owns a share in the trade amounting to 20 lakhs. The trade, as a whole, is subject to considerable fluctuations which synchronize with the vicissitudes characterizing almost all trade in raw material. Ready-made tools and implements are being sent to India in increasing number in lieu of the iron from which such instruments were roughly fashioned here in past years. The trade in pig-iron and castings made at Barkar is expanding; the railway companies year by year sell more old iron and scrap, which have a better reputation in the market for good quality than the material imported

by private firms; and lastly for certain classes of goods steel is rapidly superseding iron. In steel the imports have increased five-fold during the last two decades, while in tinned plates alone the imports have been doubled in consequence of the extensive local manufacture of cans for petroleum.

Oil.

Seven-eighths of the trade registered under the head of oil is in kerosine. Russia first commenced to export oil to Bombay in 1880 and has augmented her share in this trade from 11 lakhs to 63 lakhs and finally to 69 lakhs during the last three decades respectively. Between 1870 and 1880 America imported oil to the value of 3 lakhs, and increased her imports to 18 lakhs between the latter year and 1900, but the last seven years has witnessed her share decrease to 16 lakhs. The year 1881 is an important date in the history of the import trade in oil. The Petroleum Act, promulgated in that year, maintained the flashing point at 73° and enforced the testing of oil by the Customs authorities. A consignment of 3,200 cases of oil from the ship *William Douglas* was refused permission to land in the same year, as the flashing point of the oil was found to be below 73°, and the owners were compelled to reship the cases to ports beyond British India. In 1882-83 after the embarrassment caused by the introduction of the Act had passed away, very large imports of kerosine, amounting in value to 29¾ lakhs, took place, and save for a diminution in the following year (1883-84) the tendency of the trade has been steadily progressive. At one time it was anticipated that, judging from the success which had attended the trade due to cheap transit charges, the exports of oil would be entirely diverted from America to Batoum and Baku: but in 1893-94 there was an excessive importation of kerosine oil from the United States, which was due partly to speculation, founded on the belief that an increase of the import duty would form part of the fiscal measures which were supposed to be under consideration, and partly to the desire to prevent Russian oil from taking possession of the market, as it threatened to do. The imports in fact were so large as to be greatly in excess of the off-take, and were

accompanied by a great fall in prices. In 1894-95 the position as between Russian and American oil was greatly modified, for while the imports of Russian oil diminished those of American oil decreased far more largely, the decline being so heavy that the total imports of oil fell to the point at which they had stood five or six years previously. Stocks fell to a very low level, holders being disinclined to order out fresh supplies until they had obtained all the profit to be had out of the tariff arrangements, one of which was the doubling of the import duty. These conditions of reduced imports and low stocks brought about another flow of oil to India and in 1895-96 no less than 40 million gallons reached this country from Russia, and 23 million gallons from America. There have since that date been installations of bulk oil not only in Bombay but at many of the large towns on the G. I. P. Railway, the oil being despatched inland both in bulk and in locally manufactured tins. The import of Sumatra oil became an established fact at the close of last century; while in 1903-04 a new feature was introduced into the trade by the import of Burma oil. The quantity and value of the imports of the latter kind of oil are shown in the following table:—

Year.	Thousands of gallons.	Value in lakhs.
1903-04	1,700	6½
1904-05	2,036	7¾
1905-06	10,893	41½
1906-07	9,500	35½

Dyes.

The import of alizarine dyes commenced during the last decade of the 19th century and amounted to 14 lakhs, out of which Holland and Belgium claimed shares of 8 lakhs and 5 lakhs respectively and the United Kingdom and Austria about Rs. 40,000 apiece. The imports increased in value between 1901 and 1907 to 21 lakhs, out of which the shares of Belgium, Holland and the United Kingdom amounted respectively to 11, 8 and one lakh. Aniline dyes on the other hand were first imported between 1871 and 1880 to the extent of 2 lakhs, which

rose during the three succeeding decades to 10, 31 and 33 lakhs. Belgium is the largest contributor to the trade, her share during the last decade amounting to 16 lakhs, while the shares of Germany, Holland and Italy aggregated 3, 6 and 5 lakhs respectively between 1900 and 1907.

Liquors. The total yearly imports of liquor into Bombay during the years 1900-07 were valued at 55 lakhs, out of which the share of the United Kingdom was 35 lakhs. The trade in liquor may be divided into three heads, *viz.*:—(*a*) ale, beer, porter and other fermented liquors, (*b*) spirits, (*c*) wines. In 1894-95 there was an increase of nearly 2 lakhs in this trade, chiefly noticeable in potable spirits and due to imports of underproof brandy and whiskey and of overproof whiskey and rum. Large quantities of German spirit, coloured and flavoured to resemble brandy, are imported in wood at strengths approaching rectified spirit and are delivered "Free, Bombay Harbour" at the same price as rectified spirit. There is also a considerable trade in Continental whiskey, a beverage whose character may be inferred from the fact that certain Austrian distillers once argued that it is legal to import liquor labelled "Glasgow whiskey, made in Austria." The chief countries other than the United Kingdom which contribute to the trade are France with 11 lakhs worth of imports, Germany with 3 lakhs, Belgium with 1½ lakhs, Austria and Holland with ·6 lakhs apiece and Italy with ·3 lakhs. America sends a certain quantity of liquor to Bombay, and a small trade exists with Egypt and Mauritius.

Coal. There was practically no import trade in coal during the first half of the 19th century. But from 1860 onwards, when railways, telegraphs and steam navigation began to expand in this country, the trade, which was confined to the United Kingdom and Australia up to 1890, commenced to assume considerable proportions. Since 1890 Japan and Calcutta have entered the field, and between 1900 and 1907 the demand for Calcutta coal became so great that the value of imports from the United Kingdom was reduced to 25 lakhs against 74 lakhs in the previous decade. During 1906-07 the share of the United Kingdom was 38 lakhs only while Calcutta contributed 124 lakhs.

The following table shows the average annual imports of coal from various countries into Bombay since the year 1860 :—

(000's omitted both in quantity and value.)

Decades.	United Kingdom.		Australia.		Japan.		Total.		Calcutta.	
	Tons.	Value Rs.	Tons.	Value Rs.	Tons	Value Rs.	Tons.	Rs.	Tons.	Value Rs.
1860-1870.	...	27,39	...	86	...	...	...	28.25	...	...
1870-1880.	...	48,63	...	76	...	...	...	49 40	...	...
1880-1890.	...	90,30	...	68	...	...	...	90,98	...	20
1890-1900.	40(	74,97	7	1,26	20	3,06	4,37	79.29	1,77	25,51
1900-1907.	131	25,84	9	1,45	20	2,92	1,61	30,22	6,99	91,92

Exports, Raw Cotton. Bombay is the sole outlet for the produce of Gujarat, the Deccan and the Central Provinces, and her export trade is confined for the most part to cotton, wheat and seeds. Raw cotton does not appear to have been exported from India till 1783, when 114,133 lbs. were shipped to England. In 1790 the Directors of the East India Company, at the instance of the manufacturers, imported 422,207 lbs., but the speculation did not answer. In 1809 at the period of the American Non-Intercourse Act, the Directors imported 30 million lbs. of which only 1,250,000 were used by the British manufacturers and 2,250,000 were exported to the Continent. This unlucky venture made the Company decide to import no more, even when the American War broke out. But after the peace a general revival of trade took place and an increase of the imports of cotton from 60 to 90 millions of pounds took place in 1816. In 1817 to 1819, when excessive speculation prevailed and prices remained high, large quantities of cotton were imported from India into England. The failures which took place in Calcutta in 1820, in consequence of this over-speculation, are stated to have been the first check experienced by the cotton-growers of Bundelkhand, and the Indian trade did not recover for some time. About 1825 the exports from Bombay became considerable, in consequence of the settled state of the interior, and in 1832

a further increase took place as a result of a gradual rise in the price of American cotton, caused by the operations of the bankers of the United States. But the heyday of Bombay's exportation of cotton coincided with the outbreak and continuance of the American War (1861-65), when the cotton-supply of America was entirely cut off. The average annual exports from Bombay during those years were valued at £21,582,847, as shown in the following table:—

Year.	Value in sterling.
1861-62	£ 9,262,817
1862-63	£14,834,640
1863-64	£27,912,117
1864-65	£30,370,482
1865-66	£25,534,179

As the cotton exported in the year 1859-60 was valued at only 5¼ millions, the total gain in the five years to Bombay was 81 millions sterling over and above what she had in former years considered a fair price for her cotton. But the valuation of cotton used to be taken very carelessly at the Bombay Custom House; and these figures represent rather what sanguine shippers expected to get than what they actually received. Allowing however a liberal margin for such errors, we may compute the clear addition to the actual wealth of Bombay at 70 to 75 millions sterling—a tolerably substantial foundation for speculators to build upon. The panic which ensued in 1865-66 fortunately inflicted no permanent injury upon the trade of Bombay, for the exports of cotton during the last quarter of the 19th century increased by an appreciable figure. Up to 1890 the United Kingdom maintained her position as the chief recipient of Indian raw cotton, her share amounting to 407 lakhs out of a total export of 1,125 lakhs in value; but from 1891 onwards Austria-Hungary, Belgium, France and Italy contrived to maintain their trade undiminished. In these countries the Indian short-stapled fibre is used for making coarse blouses for peasants. The greatest consumer of Indian cotton is Japan, which by 1907 managed to absorb 435 lakhs of exports out of a total average of 1,287 lakhs for the years 1900—1907.

Cotton Twist and Yarn.

Up to the year 1870 the export trade in cotton twist and yarn was insignificant; but in 1871 Japan and China, the two great centres for Bombay exports, commenced to establish the trade which has formed one of the chief foundations of Bombay's prosperity during the last thirty years. The years 1892-93 and 1895-96 were record years, but were followed by a considerable decline of trade in 1897 owing to a general exodus of mill-hands from Bombay and the resultant difficulty of keeping the mills working. This exodus, which was engendered by the outbreak of plague, soon attained the dimensions of a stampede, until in a few weeks it was estimated that, exclusive of the engine-room and outside staffs, the number of operatives at work was less than 20 per cent. of the normal. Every effort was made by agents and owners to keep their mills open under the most adverse circumstances and at great financial sacrifices. Many huts of a comfortable character were erected close to the mills and offered rent-free to operatives, medicine and medical attendance were provided free of charge, and shops were opened in the mill-premises, where flour, grain and other food-stuffs were supplied either gratis or in advance of wages. Notwithstanding all these inducements however several mills were compelled to close altogether, while others worked with as little as one-fourth of their machinery, and even then in some cases with a considerable proportion of unskilled hands, whose outturn both as regards quantity and quality was naturally very defective and unremunerative. For a period, therefore, the industry was for all practical purposes at a standstill; but when the plague somewhat abated in 1898, matters in great measure resumed their normal condition. One adverse result of the plague exodus was the enhanced wages and the undesirable mode of paying them which the hands were enabled by their own paucity of numbers to demand and enforce The pernicious system of paying wages daily was introduced and became almost universal owing to the anxiety of agents and owners to keep as much as possible of their machinery running and a return to monthly wages was only effected with great difficulty

after a strike had taken place. In 1899 owing to scarcity of rain and the stock of cotton in the Bombay mills being barely sufficient to last till the March of 1900, the Bombay Millowners' Association decided to close their mills for four days in the week. Between 1901 and 1907 however matters greatly improved; and although Japan withdrew almost entirely from the trade owing to the establishment of spinning mills in her own territory, China monopolised a share valued at 792 lakhs out of a total of 850 lakhs. The total average export trade of Bombay during the last four decades has been of the value of 586 lakhs, out of which the average share of China has amounted to 541 lakhs.

The export trade in wheat actually commenced in 1851, *Wheat.* but was comparatively insignificant until 1871. During the decade ending 1879-80 it was valued at 24 lakhs, at 367 lakhs for the following decade and at 230 lakhs for the decade ending 1899-1900. A distinct decline in the trade set in between 1901 and 1907 when the total value of the exports fell to 90 lakhs. The countries which share in this trade are the United Kingdom, Belgium, whose share during the seven years ending 1907 was valued at 11 lakhs, France whose share has decreased from 64 lakhs in 1890-1900 to 21 lakhs, Germany with a share of 2 lakhs in 1900-07, Spain with a share of 6 lakhs, and Italy which took a small share of one lakh prior to 1880 and augmented her imports of wheat to the value of 20 lakhs during the decade ending 1900. A large proportion of the wheat export trade is ordinarily carried on at Karachi, a port which has greatly developed in the last fifteen years. This fact coupled with the great vicissitudes to which the trade is subjected have prevented the exports at Bombay expanding on regular lines. The unusually abundant wheat harvests of the United States have also enabled America to present such plenteous supplies to the the world as to send prices down "to what might be thought the lowest possible level, if one did not constantly see that there were still lower depths of prices at which wheat would be grown and sold."

The first shipments of oil-seeds occurred during the *Oil-seeds.* decade ending 1849-50 and were despatched to the

United Kingdom. They were valued at 2 lakhs only, but commenced to increase steadily from that date until they reached a total of 416 lakhs during the decade ending 1889-90. With the exception of Egypt and America, the exports to which though never large have seriously decreased during the last twenty years, every country which imports Indian oil-seeds has enormously increased its demand during the last thirty years. Between 1901 and 1907 for example the shipments to the United Kingdom were valued at 100 lakhs, to Austria at 13 lakhs against a lakh in 1889-90, to Belgium at 132 lakhs against 4 lakhs in the decade ending 1879-80, to France at 249 lakhs against 8 lakhs in 1859-60 and to Germany at 65 lakhs against 2 lakhs in 1889-90. Holland too has a share valued at 38 lakhs, and Italy a share of 64 lakhs in this trade for the years 1901-07.

Raw Wool. The export trade in wool, which commenced in 1831, was valued at 79 lakhs during the period between 1900-01 and 1906-07, out of which the United Kingdom absorbed nearly the whole, namely, 76 lakhs. The balance of the trade rests with France and Belgium and more recently with Japan which absorbed 2 lakhs worth of exports between 1901 and 1907.

Cotton Piece-goods. Before the era of the great improvements in mill-machinery in Great Britain (1771-1785), cotton piece-goods of various colours and devices appear to have been exported in considerable quantities from India to England. Through the agency of European merchant-adventurers the calicoes and fine muslins of India were early brought to the notice of the West and continued to rise in public estimation until Great Britain commenced to produce her own machine-made fabrics. So superior indeed were the products of the Indian spinning-wheel and hand-loom to those turned out by the manufacturers of Lancashire in the middle of the 18th century that Indian prints and Indian calicoes were much preferred to British-made goods, and the Manchester and Blackburn weavers actually imported Indian yarns in large quantities for use in their own factories.[1] During the earlier years of the 19th

[1] Cyclopædia of India, 1885.

century England, France and Portugal, as well as Persia, Arabia and the Straits Settlements, absorbed the bulk of the export trade; but from the year 1845 the United Kingdom ceased to take any appreciable quantity of Indian cotton manufactures, having found herself able not only to supply her own wants but even to undersell the Indian manufacturer in his own markets. The extant statistics show that in 1800—1810 the United Kingdom exported cotton goods of the value of Rs. 72,000 to Bombay. This figure rose by 1820 to 3½ lakhs, by 1830 to 28 lakhs, and finally to 193 lakhs during the decade ending 1860. The last-named decade marks a turning-point in the history of cotton-manufactures in Bombay, for in 1854 the first cotton-mill (the Bombay Spinning and Weaving Company) was opened by Mr. C. Nanabhai Davar. By 1865 there were 10 mills at work with 249,284 spindles and 3,378 looms; in 1890 the number had increased to 70 with 18,95,660 spindles and 13,785 looms; while in 1907 85 mills were at work with 26,13,483 spindles and 31,982 looms. The chief countries which absorb the products of the Bombay mills are Arabia, the Persian Gulf, the Straits Settlements and Africa; and in spite of the fact that imports of cotton-goods from the United Kingdom have steadily increased from 382 lakhs in 1870-80 to 707 lakhs in 1890-1900 and that goods manufactured in Indian mills are subject to an excise-duty, the exports of Indian-made cotton-goods from Bombay show a steady tendency to expand. The trade in woven fabrics suffered to some extent in 1893-94 in sympathy with the depression then affecting the trade in spun-yarns; but the recovery was rapid and complete, and in spite of the fact that exports to Japan have declined considerably in consequence of the erection and extension of cotton-mills in that country, Bombay finds a steadily expanding market for her fabrics in the Straits Settlements and Africa. The trade in white or bleached piece-goods is unimportant, the bulk of the Bombay exports consisting of the coarse cheap goods styled grey or unbleached. The following table shows the value in rupees of the exports to the chief

consuming centres in each decade between 1859-60 and 1899-1900 :—

Year.	Arabia.	Persian Gulf.	Straits Settlements.	Africa.	Total Exports.
1859-60 ...	40,000	40,000	64,000	15,000	2,00,000
1869-70 ...	3,12,000	95,000	190	12,000	4,42,000
1879-80 ...	20,76,000	1,12,000	24,000	5,87,000	29,65,000
1889-90 ...	21,38,000	2,59,000	1,13,000	25,42,000	55.76,000
1899-1900 ...	22,04,000	1,56,000	2,71,000	25,56,000	63,26,000

Opium.

The years 1862-63 and 1876-77 were remarkable for very large exports of opium to China, which were due partly to the excellence of the crop in Malwa and Gujarat, partly to the profitable rates obtaining in Hongkong and Shanghai and partly to a reduction in the rates of pass-fees on imported opium from Rs. 700 to Rs. 600 per chest. In 1878-79 a diminution occurred, which continued throughout ensuing years and in time became a permanent feature of the trade. When first officially noticed about 1886-87 it was attributed chiefly to the effect of the Chefoo Convention of September 1876 and to the increased consumption in China of locally-grown opium. How the Convention operated is not wholly apparent ; but it apparently legalised the collection of inland transit dues (likin) on imported opium, in addition to the tariff-duty. Those dues constituted a tax on the Chinese drug also, but both in its incidence and in the method of collection the tax pressed more heavily on the Indian than on the local product.[1] But the increased production of opium in China itself, its improved quality and the cheapness of the indigenous drug as compared with Indian opium were natural factors in the reduction of the exports from this country.[2] To these natural causes of decline was added ten years later the serious dislocation of the Malwa trade, consequent upon a considerable fall in the price of silver and a simultaneous rise in the sterling value of the rupee, which unfavourably affected the dollar exchange and led to a decrease of

[1] Encyclopædia Britannica, Vol. XXVII, pages 25 and 31.

[2] Administration Report of 1888-89, 1891-92 and 1895.96.

9,068½ chests in the shipments to China during the triennial period ending in 1898.[1] In 1898-99 the figures advanced by 13,215 chests owing to the poorness of the China opium-crop and a reduction of the export duty by Rs. 100 per chest.[2] But they subsequently again fell and during the seven succeeding years the depressing influences above mentioned continuously prevailed. In 1906-07 the doubts entertained as to the effects of restrictive measures then known to be under contemplation by Government with a view to reducing the consumption of opium in China placed the trade in India at a yet greater disadvantage; and merchants were disinclined to run the risk of making large shipments. In consequence the exports in that year decreased by 766½ chests; but in July 1907 slightly easier conditions prevailed in consequence of a reduction of 400 chests in the monthly sales of Bengal opium and by an increased demand for the Indian drug, resulting from an unusually good crop in Malwa and lower prices. But this relief was only temporary; and in March 1908 the diminution in exports was accelerated by a notification of the Government of India which limited shipments of Malwa opium to countries outside India to 15,100 chests during the calendar year 1908. This notification was a partial expression of a general restrictive policy approved by both the Indian and Chinese Governments; and as it has been decided to enforce a progressive decrease for the next three years in the amount of opium exported, it is presumed that Government desire to confine opium transactions wholly to the quantity required for consumption in this country. If this be so, the extinction of the export trade can be only a matter of time. Beyond approving the recent action of the Government of India the Chinese Government have apparently taken no special measures so far to restrict imports from abroad. Their policy has hitherto been confined to reducing the consumption of opium in China by the issue of edicts regulating the cultivation of the poppy and enforcing the closing of

[1] Administration Reports for 1896-97 and 1897-98.

[2] Administration Report for 1898-99.

smoking dens.[1] The trade with countries other than China is infinitesimal.

The following table shows the average number of chests of opium annually exported from Bombay since 1859-60 :—

Years.	Average number of chests exported.
1859-60 to 1869-70 ...	37,000
1870-71 to 1879-80 ...	43.000
1880-81 to 1889-90 ...	35,000
1890-91 to 1899-1900 ...	26,000
1900-01 to 1907-08 ...	18,000

Coasting Trade.

The coasting-trade of Bombay like the rail-borne trade fluctuates in accordance with the increase or decrease of imports and with the demands from foreign markets. The products of Western India and the Central Provinces find their way by sea or by rail to Bombay, which in return distributes foreign goods to those and other provinces through the medium of the railway and the coasting-vessel. At the opening of the nineteenth century the value of the total coasting-trade amounted to 230 lakhs (imports 128 lakhs and exports 102 lakhs), the largest proportion of the imports and exports being received from and despatched to the ports of Gujarat and Cutch. Next in importance were Bengal (imports 25 lakhs and exports 4 lakhs), Malabar and Kanara (imports 13 lakhs and exports 11 lakhs), and Goa (imports 25 and exports 28 lakhs). The principal articles of trade were raw cotton (21 lakhs) which was collected from Gujarat and Cutch for export to China ; cotton piece-goods brought for export to the Persian Gulf and Arabia from Gujarat, Bengal and Goa ; rice brought from Goa, Gujarat and Cutch ; and Bengal sugar brought to Bombay for export to the Persian Gulf and to various districts in the Bombay Presidency. The export trade consisted chiefly of grain, piece-goods, and such commodities as *ghi*, cocoanuts and pepper. Mrs. Graham,

[1] For a full account of the Bombay Opium Market see Maclean's Guide to Bombay (1900), pp. 130-132.

writing of Bombay trade in 1810 remarked :—"The largest and finest of the foreigners (traders) are the Arabs. Our trade with them consists in horses, pearls, coffee, gums of various kinds, honey and *ghi.* Besides these articles from Arabia, the Persian Gulf also furnishes dried fruits, otto of roses, tobacco, rose-water, a small quantity of Shiraz wine, with a few articles of curiosity and luxury, such as books, worked slippers and silk shawls. The principal export from Bombay is raw cotton, which is chiefly drawn from the subject province of Gujarat, which likewise supplies us with wheat, rice and cattle, besides vessels of earthenware and metal for cooling liquors, cornelians and other rare stones. The Laccadive and Maldive Islands furnish the greatest quantity of cocoanuts for oil and coir for cordage; and from the forests of Malabar we get timber and various drugs and gums, particularly the *dammar*, which is here used for all the purposes of pitch. In return for these things we furnish British manufactures, particularly hardware, and a variety of Chinese articles for which Bombay is the great depôt on this side of India."

During the next thirty years the coasting-trade maintained steady progress, in spite of a temporary depression in 1811-12 due to the unfavourable condition of the China market and great scarcity in Cutch and Gujarat. These circumstances reduced the value of the trade in that year to 175 lakhs as against 329 lakhs in the preceding year. In 1827 again the commercial position in Bombay was far from favourable. The supply from Bengal and Gujarat slackened and Calcutta, monopolizing much of the trade, commenced to export and import direct instead of through Bombay. The Malabar and Kanara trade however continued to flourish. In spite however of the circumstances alluded to, trade in general received a considerable impetus from the abolition of the Company's monopoly in 1813; and by 1830-31 the coasting-trade of Bombay was valued at 526 lakhs, of which 244 lakhs represented imports and 282 lakhs exports

Between 1835 and 1850 the Bombay Government strove hard to enlarge both the coasting and foreign trade by

removing restrictions such as the inland cotton and sugar duties.[1] The cotton trade had been greatly developed since 1825 by private mercantile firms who brought bales from areas as remote as the provinces of Agra and Oudh in order to meet the demands of the China and English markets.[2] The course of trade during this period was however not invariably smooth. Failure of rain in Gujarat, Kathiawar and Cutch in 1838 and 1846, the uncertain state of political relations with Persia, and unforeseen events in China connected with the opium trade combined with temporary tightness of the Bombay money-market to render progress more spasmodic than it would otherwise have been, considering that the trade with other foreign countries, with Sind and with Malabar showed no sign of depression.[3] The following table shows the value in lakhs of the coasting-trade with other parts of India between 1835-36 and 1850-51 :—

	1835-36.		1840-41		1850-51	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
Calcutta ...	26	14	27	12	39	19
Gujarat ..	•	•	278	138	452	168
Coromandel...	1	5	...	3	1	3
Malabar & Kanara ...	64	22	69	33	74	60
Cutch & Sind.	8	12	32	59	51	71
Goa, Daman & Diu ...	4	3	3	2	3	4
Konkan ...	•	•	151	85	138	96

° These figures are not available.

[1] The inland sugar duties were abolished in 1836 and the inland cotton duties in 1848.

[2] Heber wrote (1838) :—" Cotton is the principal article of export, great quantities of which come from the north-west of India, and I have frequently been interested in seeing the immense bales lying on the piers and the ingenious screw with which an astonishing quantity is pressed into the canvas-bags. Bombay is the port from which almost all the trade of the west and north is shipped for China and England."

[3] In 1814-15 trade with the United Kingdom was valued at 42 lakhs. In 1835-36 it had increased to 271 lakhs and in 1850-51 to 527 lakhs.

By the end of the period in question (1835-1850) the coasting trade of Bombay had advanced in value to 1,178 lakhs, of which 757 lakhs represented imports and 421 exports. The value of the chief items of import in 1850-51 is shown in the subjoined table :—

Article.	Konkan.	Gujarat.	Cutch.	Malabar.	Calcutta.	Sind.	Others.	Total.
Cotton, Raw.	73	154	30	26	...	...	2	285
Rice ...	9	...	...	4	7	...	...	20
Wheat ...	...	6	...	...	...	...	...	6
Sugar ...	...	...	...	...	7	...	...	7
Wool, Raw...	...	1	2	...	...	4	...	7
Opium ...	...	256	...	...	...	...	...	256
Spices ...	...	...	...	6	...	...	...	6

The principal items of export were salt and foreign goods, such as cotton piece-goods (90 lakhs), cotton twist and yarn (20 lakhs) metals (20 lakhs), raw silk (23 lakhs) and sugar (24 lakhs), which were mainly exported to Bengal, Malabar and Kanara and the ports of the Presidency proper.

During the next decade (1854-64) Bombay enjoyed an unusual amount of prosperity and both the foreign and coasting-trade largely increased. This prosperity was mainly due to the phenomenally high prices received for cotton during the continuance of the American War. [1] Between 1860-61 and 1870-71 the coasting-trade imports rose from 364 lakhs to 493 lakhs in value, and the exports from 216 lakhs to 359 lakhs in value ; and this had taken place in spite of the fact that the growth of road and railway communication had exercised a somewhat adverse influence upon the local coasting-trade, as compared with the foreign trade of the port which received an extraordinary impetus from the opening of the Suez Canal in 1869. Since 1880 the coasting-trade has fluctuated in value between 16 and 25 crores. The propor-

[1] In 1857 the price of cotton was nearly 50 per cent. above the average of the preceding years and reached its zenith between 1861 and 1864.

tion of imports and exports is practically equal, the increase under the former head being chiefly in coal, cocoanuts, copra and grain, and under the latter in Indian and foreign piece-goods and sugar of foreign manufacture.

The following table shows the value in lakhs of coasting-trade imports between 1880-81 and 1905-06 :—

Articles and Destination.	1880-81.	1890-91.	1900-1901.	1905-06
	Rs.	Rs.	Rs.	Rs.
Coal	......	......	**104**	**90**
Bengal	......	......	104	89
Cotton, Raw	**364**	**475**	**82**	**302**
Sind	3	34	10	66
British Ports within the Presidency.	185	52	......	6
Cutch	15	16	2	3
Kathiawar	142	295	7	114
Goa	......	72	54	107
Cocoanuts and Copra	**34**	**42**	**52**	**59**
Madras	21	26	31	34
Travancore	9	14	17	14
Goa	......	......	......	7
Rice	**136**	**147**	**628**	**310**
Bengal	81	78	37	14
Madras	12	8	......	......
Burma	20	25	563	195
Sind	......	......	......	12
British Ports within the Presidency.	23	33	24	82
Wheat	......	**35**	**96**	**54**
Sind	......	14	89	51
Burma	......	......	2	......
Kathiawar	......	......	2	......
Goa	......	20	......	......
Gunny Bags	......	**45**	**36**	**49**
Bengal—	......	45	36	40
British Ports within the Presidency.	......	......	......	6
Liquors—British Ports within the Presidency. ...	......	......	**22**	**54**
Oil, Cocoanut—Madras ...	......	**8**	**14**	**31**
Oil, Kerosine—Burma ...	......	......	......	**41**
Spices—	......	**43**	**54**	**77**
Madras	......	16	16	22
British Ports within the Presidency.	......	20	18	34
Travancore	......	3	14	14
Goa	......	2	2	2

The following table shows the value in lakhs of the coasting-trade exports between 1880-81 and 1905-06:—

Articles and Destination.	1880-81.	1890-91.	1900-01.	1905-06.
	Rs.	Rs.	Rs.	Rs.
EXPORTS (INDIAN).				
TWIST AND YARN	**71**	**97**	**111**	**101**
Bengal	27	45	58	39
Madras	29	24	19	13
Rangoon	......	12	21	15
Sind	......	......	9	21
PIECE-GOODS	**42**	**58**	**120**	**254**
Bengal	19	17	31	57
Sind	13	23	70	162
Rangoon	......	......	...	20
EXPORTS (FOREIGN)				
COTTON PIECE-GOODS ...	**164**	**159**	**168**	**196**
Madras	24	30	31	26
Sind	89	77	87	107
Kathiawar	14	18	13	25
METALS	**37**	**38**	**24**	**27**
Madras	11	15	12	6
Sind	12	5	6	6
British Ports within the Presidency.	7	7	1	3
Kathiawar	4	6	2	3
SUGAR	**50**	**48**	**46**	**65**
Madras	2	2	3	6
Sind	28	9	7	11
British Ports within the Presidency.	5	7	6	10
Kathiawar	10	22	21	28
WOOLLEN PIECE-GOODS ...	**7**	**10**	**7**	**6**
Madras	3	4	1	......
Sind	2	4	5	5
KEROSINE	......	......	**41**	**16**
Madras	......	......	14	3
British Ports within the Presidency.	......	......	8	4
Kathiawar	......	......	8	5
Goa	......	......	7	3
COTTON TWIST	**26**	**19**	**12**	......
Madras	3	5	1	......
Sind	6	6	2	......
British Ports within the Presidency.	13	1	......	......
Goa	......	5	7	......

The subjoined table shows the class and value of goods imported and exported coastwise from Bombay in 1907-08 :—

Locality.	Value of goods (Rs. in Lakhs).	Class of goods (The figures in brackets show value in Lakhs).
Imports from—		
Bengal ...	268	Coal (127), Gunny bags (70), Jute gunny (28), Tea (12), Betelnuts (7), Rope and Twine (6), Rice (5).
Eastern Bengal and Assam....	2	Rice (1).
Madras	136	Cocoanuts (32), Oil (28), Spices (23).
Travancore and Cochin. ...	41	
British Burma ...	342	Rice (251), Oils (59), Teakwood (14.)
Bombay Presidency—		
Sind	174	Raw cotton (40), Wheat (63), Rice (10), Other grains (28).
Cutch	31	Raw cotton (19), Raw wool (5), Grains (3), Seeds (1).
Kathiawar ...	260	Raw cotton (200), Ghi (14), Raw wool (11), Pulse (6), Other grains (5).
Cambay ...	½	Pulse (½).
Janjira ...	3	Betelnuts (1).
Baroda ...	2½	
Goa, Diu and Daman ...	179	Raw cotton (146), Til (5), Linseed (5), cotton Seeds (3), grains (5).
British Ports ...	160	Liquors (26), Rice (26), Pulse (3), Betelnuts (25), Pepper (4), Raw Cotton (4), Teakwood (3). The largest imports are from Ratnagiri (12), Uran and Anjanwel (10 each), Vengurla, Bankote and Viziadurg (9 each), Broach, Malvan (8 each), Karanja (7), and Alibag, Trombay, Honaver and Panvel (6 each).
Total ...	1,599	

Locality.	Value of (goods Rs. in Lakhs).	Class of goods (The figures in brackets show value in Lakhs).
Exports to—		
Bengal	272	Grey piece goods (120), Coloured piece-goods (32), Twist and yarn cotton (57), Raw Cotton (32).
Eastern Bengal & Assam.	¼	
Madras	172	Grain (30), Twist and yarn (18), Cotton piece-goods (30).
Travancore and Cochin.	18	
British Burma...	78½	Twist and yarn (14), Grey and white piece-goods (15), Coloured piece-goods (11), Wheat flour (6).
Pondichery ...	12¼	Raw cotton (12).
Bombay Presidency—		
Sind	452	Grey piece-goods (192), Coloured piece-goods (69), White piece-goods (56), Twist and yarn (27).
Cutch	36	Grey piece-goods)6), Coloured piece-goods (4), White (1), Twist and yarn (3), Sugar (3), Rice (1½).
Kathiawar ...	171½	Sugar (30½), Rice (16), Til (6), Cotton seeds (12), Twist and Yarn (8), Grey and white and coloured piece-goods (29).
Cambay ...	½	
Janjira ...	6	Jowar and Bajri (1), Rice (1).
Baroda ...	6	
Goa, Diu and Daman.	40	Raw cotton (2), Piece-goods (5), Rice (3), Gram (3½), Pulse (1½), Kerosine oil (3½).
British Ports.	136	Rice (27), Jowar and Bajri (4), Pulse (4), Gram (2½), Wheat and wheat flour (1½ each), Sugar (10), Kerosine oil (6), Grey piece-goods (6) Coloured piece-goods (7), Twist and yarn (1½), Seeds (1). The largest exports are to Uran (27), Honavar (25), Trombay (16), Karanja (10½), Panvel (6½), Malvan (6), Anjanwel(5), Alibag, Broach and Viziadurg (3½ each), Bankote, Vengurla and Ratnagiri (3 each).
Total ...	1,400	

Rail-borne Trade.

The Great Indian Peninsula Railway and the Bombay, Baroda and Central India Railway both carry a large traffic to and from Bombay, the former serving the southern eastern and north-eastern portion of India and the latter serving Gujarat, Rajputana, Central India, the United Provinces and the Punjab. Statistics of goods carried during the first few years after these two lines were opened are not available; but in 1870 the G. I. P. Railway, which was open for traffic for 1,258 miles, booked 212,905 tons of goods to stations in Bombay City and Island and carried 126,861 tons of goods from stations within the same area. The corresponding figures for the B. B. and C. I. Railway which was open for 312 miles in 1870 are not available. The bulk of the trade was in cotton and grain, brought from the Deccan and Central Provinces by the G. I. P. Railway and from Gujarat by the B. B. and C. I. Railway. During the following decade the rail-borne trade of the island increased in proportion to the increase in the foreign trade of the port. The G. I. P. Railway Company extended their line to Jubbulpore and Raichur and opened connections with the other chief lines in India, with the result that the volume of their rail-borne trade was more than doubled. In 1880 this railway booked nearly 700,000 tons of goods to and from stations within the limits of the island. The traffic of the B. B. and C. I. Railway also increased in consequence of the opening of new lines in Rajputana and Kathiawar.

The following statement shows the progress of traffic (excluding the figures of the Railway Company's materials) from and to stations in Bombay Island since the year 1886:—

Year.	G. I. P. Railway.		B. B. & C. I. Railway.	
	Imports.	Exports.	Imports.	Exports.
	Tons.	Tons.	Tons	Tons.
1886	1,155,152	332,671	455,405	166,298
1887	1,068,207	408,894	277,823	153,199
1888	1,049,983	443,564	......*	166,404
1889	848,043	293,875	365,721	187,445
1890	938,455	316,829	271,871	186,015

* Not available.

Year.	G. I. P. Railway.		B. B. & C. I. Railway.	
	Imports.	Exports.	Imports.	Exports.
	Tons.	Tons.	Tons.	Tons.
1891	1,356,933	315,432	446,120	186,226
1892	1,148 875	296,316	425,956	184,469
1893	1,113,300	302,869	463,227	192,160
1894	954,808	309,850	480,480	212,080
1895	828,601	295.098	511,215	243,467
1896	934,871	345,205	357,436	235,675
1897	560,919	417,698	301,540	248,611
1898	1,167,362	360,573	526,342	263,752
1899	1,126,654	386,572	377,349	398,423
1900	716,610	560,477	187,561	697,551
1901	1,049,349	551,936	410,153	321,298
1902	1,294,744	464,136	300,401	331,979
1903	1,588,140	438,619	476,005	235,927
1904	1,636,868	464,976	512,993	275,775
1905	1,635,320	528,042	537,257	342,575
1906	1,376,175	611,791	604,238	406.822
1907	1,627,503	586,754	731,147	358,745

According to the returns published by Government for financial years the value of the rail-borne trade of Bombay Island in thousands of rupees was as detailed below :—

Year.	Imports.		Exports.	
	External.	Internal.	External.	Internal.
1888-89	181,668	107,171	61,386	65,639
1889-90	158,005	106,430	71,612	70,355
1890-91	140,488	115,716	84,352	77,752
1891-92	161,462	108,027	86,430	82,876
1892-93	165,033	127,206	78,305	77,291
1893-94	180,539	140,687	91,230	79,825
1894-95	137,643	128,717	87,830	81,057
1895-96	156,793	148,297	86,874	82,581
1896-97	126,257	119,190	75,059	81,019
1897-98	117,206	101,483	87,532	91,866
1898-99	187,586	136,489	106,057	88,815
1899-1900	163,912	113,379	97,127	113,966
1900-01	184,529	95,170	134,068	135,038
1901-02	262,600	123,134	140,982	93,558
1902-03	227,197	114,733	131,727	88,471
1903-04	238,213	149,904	146,325	89,064
1904-05	261,562	158,720	168,696	97,391
1905-06	312,955	194,503	188,117	111,301
1906-07	266,646	163,357	187,724	117,500
1907-08	259,587	176,055	212,962	138,909

During the last 20 years the rail-borne trade of Bombay has expanded by 89 per cent. in value, in spite of the fact that between 1896 and 1901 famine and plague, coupled with the sluggishness of the local money-market, exercised a somewhat adverse effect upon it.

The following table shows in thousands of rupees the progress of the rail-borne trade of Bombay with each province between the years 1888-89 and 1907-08:—

Provinces.	1888-89.		1907-08.	
	Imports.	Exports.	Imports.	Exports.
	Value.	Value.	Value.	Value.
	Rs.	Rs.	Rs.	Rs.
Bombay Presidency	1,07,172	65,639	1,76,055	1,38,909
Madras	963	1,261	6,403	27,550
Sind and Baluchistan ..	...	...	12	238
Bengal ... ... } Eastern Bengal and Assam ... } ...	155	225	4,061	5,656
United Provinces	23,866	8,338	49,776	31,261
Punjab	10,755	10,966	21,111	40,157
Central Provinces and Berar.	69,831	19,913	90,422	48,035
Rajputana and Central India	69,914	14,193	52,429	33,268
Nizam's Territory	6,175	6,374	34,143	21,687
Mysore	8	116	1,225	5,104
Total ...	2,88,839	1,27,025	4,35,6[illegible]	3,51,871

Of the total rail-borne trade of Bombay nearly 40 per cent. represents trade with other parts of the Bombay Presidency, 17 per cent. is trade with the Central Provinces and Berar, 11 per cent. is with Rajputana and Central India, 10 per cent. with the United Provinces, from 5 to 8 per cent. with the Punjab, 4 per cent. with Madras and one per cent. with Bengal. During recent years the trade of the Punjab has been diverted to Karachi whence the goods are exported direct to foreign ports.

The subjoined table, from which figures in thousands (000s) have been omitted, shows the chief articles of import and export carried by the railways to and from Bombay City:—

ARTICLES.	1888-89.		1907-08.	
	Quantity.	Value.	Quantity.	Value.
	Mds.	Rs.	Mds.	Rs.
IMPORTS.	**38,442**	**2,88,839**	**56,602**	**4,35,642**
1. Coal and Coke	160	140	725	438
2. Cotton raw	6,374	1,17,649	10,785	2,21,029
3. Cotton Manufactures, European	6	259	9	510
4. Do. Indian ...	330	11,300	321	12,984
5. Dyes and tans	497	2,291	1,413	4,200
6. Wheat	15,364	39,667	2,360	8,656
7. Other food grains ...	2,751	6,759	4,446	15,098
8. Gunny bags and cloth....	23	238	226	3,022
9. Hides and Skins... ...	17	609	181	5,126
10. Liquors	6	112	2	83
11. Metals	114	1,173	10,035	9,536
12. Oils	91	1,632	108	1,777
13. Oil seeds	9,100	39,065	11,707	63,823
14. Opium	59	46,586	33	20,719
15. Provisions	824	6,466	860	11,845
16. Railway plant and rolling stock	...	...	84	441
17. Spices	121	2,438	376	5,289
18. Sugar	69	591	130	900
19. Wool, raw	121	3,986	130	4,277
20. Others	2,415	8,078	12,671	44,989
21. Gold coins *	...	...	...	35,962
22. Silver coins and bullion.	...	...	...	13,073
EXPORTS.	**14,958**	**1,27,025**	**31,327**	**3,51,871**
1. Coal and Coke... ...	5,639	4,934	6,371	4,601
2. Cotton, Raw	74	1,448	357	4,069
3. Cotton Manufactures, European	1,080	47,589	1,790	1,21,223
4. Do. Indian ...	1,355	9,468	224	9,445
5. Dyes and tans	87	1,918	264	6,159
6. Wheat	36	128	58	276
7. Other food grains ...	651	3,033	3,321	18,381
8. Gunny bags and cloth.	445	4,864	497	7,417
9. Hides and Skins... ...	4	180	47	1,313
10. Liquors	93	3,323	214	7,605
11. Metals	1,961	12,791	4,042	47,358
12. Oils	495	3,016	2,476	14,240
13. Oil seeds	35	191	163	1,112
14. Opium	1	1,057	2	1,773
15. Provisions	1,026	4,647	1,254	19,147
16. Railway plant and rolling stock	...	...	1,663	7,270
17. Spices	296	4,943	496	8,883
18. Sugar	987	7,707	2,847	19,560
19. Wool, raw...	1	33	1	35
20. Others	692	15,755	5,240	55,002
21. Gold coins*	...	...	...	7,528
22. Silver coins and bullion...	...	...	...	1,32,323

* Separate figures of bullion and treasure trade are available from 1896-97.

The chief imports by the B. B. & C. I. Railway are raw cotton, grain, pulse and oil-seeds. Of these the imports of cotton have risen from 64,000 to 147,000 tons, of grain and pulse from 31,000 to 151,000 tons and of oil-seeds from 40,000 to 112,000 tons. The chief exports by the B. B. & C. I. Railway are cotton piece-goods, which have risen during the last twenty-five years from 15,000 to 19,000 tons, sugar, which has risen in the same period from 13,000 to 44,000 tons and metals which are exported to the quantity of 58,000 tons. The chief items of import by the G. I. P. Railway are raw cotton, grain, oil-seeds and opium, while the chief items of export are cotton piece-goods, metals and sugar. The increase in these items during the 27 years ending 1908 was as shown below :—

Imports.	1881.	1908.	Exports.	1881.	1908.
	Tons.	Tons.		Tons.	Tons.
Raw Cotton ..	100 937	214,807	Cotton piece-goods ..	23,466	39,144
Grains ..	536 695	75,792	Metals ...	19 202	77,205
Oil seeds ...	179,609	323,791	Sugar	9,214	64,327
Opium ...	3,179	238			

Local Trade.

For several years after Bombay had passed into the possession of the East India Company the trade of the island was comparatively small[1] and, such as it was, was hampered by lack of capital, external warfare and epidemic disease. The number of substantial traders was very limited, and most of those who immigrated to the island were "a miserable poor sort of all sects, who fly from the Moors and Portuguese persecutions and value themselves on your honours' protection." The retail trade in rice and grain was in the hands of certain persons known as *Kacharas*, appointed by the Company's Government, whose duty it was to sell small quantities in the public markets under certain restrictions designed to encourage outside merchants to import grain. The retail sale of unbeaten rice through the *Kacharas* continued in the early part of the 18th cen-

[1] Aungier wrote to the Directors in 1673-74 :—"English commerce under your Honours' happy management seems as a plant watered by Divine Providence, rooted in the affections of all people where it is settled, courted by princes and states, and reason so persuades, for you bring good to all."

tury, the supply being either purchased by them from the Government stores or imported direct and sold at a rate fixed by the President. In course of time trouble arose with the *Kacharas* who were accused of unfair dealings and of refusing to sell at the established rate; and the license to sell was therefore restricted to a single individual. He however gave so little satisfaction that his monopoly was abolished, and the retail trade in grain was declared free to all, provided always that the sellers adhered to the official rates. The new system, however, was not appreciated by a people who cling closely to ancient customs; and the *Kacharas* managed to gradually recover their former position, which resulted in the Bombay Government appointing a clerk of the markets in 1741 to undertake the retail sale of grain.

Trades other than the grain trade were free from Government interference in the middle of the 18th century and every encouragement was given to fishermen, cultivators and vegetable-growers to bring their produce for sale in the Bombay market. Most of the local traders of this epoch were Banias and Musalmans, and by the end of the century a considerable number of Parsis had also gained a share of the trade. During the first half of the nineteenth century the local trade profited by the great increase which took place in the foreign trade of the island, agencies and shops were opened, and many rich merchants, Parsi, Hindu and European, opened businesses in the town. The earliest English firm established in Bombay was that of Forbes and Company in 1767, which for many years transacted agency and mercantile business without a rival;[1] and this firm was followed in subsequent years by others, which, until the passing of Lord Melville's bill in 1813, had very little chance of making large profits. "None of them," wrote Milburn "could subsist upon the advantages of the agency business alone, it being very confined and the profits in a great measure absorbed by interest of money on the cash balances they are obliged to keep and the expenses of

[1] This firm also financed the East India Company on various occasions. In recognition of the high esteem enjoyed by the firm a statue of its most notable head, Sir Charles Forbes, was erected in 1822. The statue can be seen in the Town Hall.

the establishment. Their advantages arise principally from mercantile transactions and though they hold out the agency business to be the line they confine themselves to, yet without trade they would scarcely gain a subsistence. Agency however gives them the command of a capital which enables them to embrace every favourable opportunity that occurs to forward their commercial pursuits. They usually allow 9 per cent. interest for money deposited in their hands. Many great and uncommon events have occurred during the war which contributed in a great measure to advance the opulence of the merchants of the Presidency. The fortunes acquired have been considerable and rapid, more particularly amongst those who were proprietors of ships.

"The Parsis rank next to the Europeans. They are an active, industrious and clever people and possess considerable local knowledge. Many of them are very opulent and each of the European houses of agency have one of the principal Parsi merchants concerned with them in most of their foreign speculations. They are become the brokers and Banias of the Europeans. The factors belonging to these different houses, resident in China, Bengal, etc., are generally Parsis." A few Jewish Firms, notably that of David Sassoon and Co., also traded with China. According to Mrs. Elwood (1830) the retail trade of Bombay was almost wholly in the hands of this enterprising community, which managed to come successfully through the commercial depression of 1816 to 1824, of 1827 and 1834, and outlive some of the European mercantile houses.[1] In 1840 when the registering regulation was brought into force a large number of Bhattias and labourers left Bombay; but this circumstance had little effect upon the general progress of the local trade. Besides many persons engaged in banking, agency and brokerage, Bombay in 1847 contained 201 *dal* and rice dealers, 152 confectioners, 491 cloth merchants, 203 dealers in brass and copper, 237 butchers, 459 liquor dealers,

[1] For description of the bazaars and the retail traders about this epoch, see Forbes' Oriental Memoirs; Postans' Western India.

736 goldsmiths, 218 shoemakers, 352 tailors, 236 iron-smiths, 253 tobacconists and 439 pawnbrokers. In 1861 the European houses of business in Bombay numbered about 50, the majority of which confined their operations mainly to agency and commission business. They sold the piece-goods and metals consigned to them on commission and similarly undertook the sale in Europe of shipments of produce belonging to Native firms. Some of these European firms were extensive shippers as well. The wild speculation of 1864 was an ordeal through which few firms passed unscathed, and the financial credit of Bombay was for a time severely jeopardised. But fortunately the city suffered no permanent injury from the delirium of those years, and since 1870 retail trade, commission and agency business and the mill-industry have greatly developed.

According to the census returns of 1901 more than one-tenth of the urban population is engaged in trade of one kind or another. About 66,000 persons are classed as shop-keepers, general dealers, hawkers, etc.; 9,000 deal in special goods ; 1,500 are vegetable food dealers and 4,500 (including fishermen) are dealers in animal food. The leading traders are Bhattias, Banias, Jains, Bohras, Memons, Parsis, Jews, and Europeans. The principal European shops are situated on Rampart Row, the Esplanade, and neighbouring streets. Marathas deal largely in fruit and vegetables, the Kolis monopolise the fish supply and the butchers are mostly Musalmans. The fruiterers of Bombay are mostly Marathas from the Deccan, but comprise a few Banias from Cutch, and a few Memons, Khojas and Parsis ; while the vegetable traders also include Kharvas of Veraval, Mangrol and Porbandar, and Memons. The commodities which are chiefly hawked about the streets of Bombay are fruit, vegetables, eggs, baked meat, bread, sugar, molasses, sugar candy, sweetmeats, sweet oil, cocoanut oil, kerosine, fowls, cotton and silk goods, and other articles. The hawkers, who are both Hindus and Muhammadans, number about 2,000, and rather more during the mango-season, and earn by hawking from 4 annas to 2 rupees a day. A certain number of beef-

hawkers are licensed under the Municipal Act for the benefit of the beef-eating public which lives at a distance from the three public markets that contain beefstalls. Retail grocers' shops are discoverable in every quarter of the city, and are conducted chiefly by Banias from Cutch, Bhavnagar and Gujarat, and also by a few Muhammadans and Parsis. They buy their stock from the wholesale merchants at Masjid Bandar and reckon upon making a net profit of from Re. 1 to Rs. 2 per diem, according to the situation of the shop. The capital required to start a retail grocery business varies from Rs. 100 to Rs. 500. To start a retail grain-shop requires a capital of Rs. 500 to Rs. 10,000 and this class of business is chiefly in the hands of Gujarat Banias and Lohanas, who own about 4,000 shops in different parts of the city. Retail cloth-shops are owned by Bhattias and Banias and by a few Muhammadans and Parsis; and hosiery and boot-shops are generally owned by Muhammadans. The wholesale business in cloth is conducted in the Mulji Jetha and other big cloth-markets, the wholesale trade in copper at Paidhoni, in drugs at Ganeshwadi, in food-grains, sugar and *Ghi* at Mandvi, in silver and gold in Shaik Memon street and the trade in opium and machinery in the Fort.[1]

[1] There are about 40 merchants of weight in Bombay, who deal in pearls, most of them being Jains. One or two Arab pearl-merchants however are also resident in the city, and they sell the bulk of the Persian Gulf pearls to the Hindu dealers. Most of the pearls dealt with in Bombay are brought from the Persian Gulf, though a few come from Ceylon and a certain number of Australian pearls are sold in India. The class of pearl styled "yellow" and "banock" are mostly sold in India; the remainder in Paris and London. The value of the pearls annually brought down from the Gulf is about 2 crores of rupees; of those from Arabia about 15 lakhs; and of pearls from Ceylon about 40 lakhs. A poor class of pearls, averaging about 10 lakhs annually, is sent from Mergui in Burma. The value of the pearls annually sold by Bombay merchants is about 3 crores, including new and old crop. The round pearls are generally sorted by sizes and sold in lots, while the special pearls are sold separately. They are nearly all polished in Bombay by the merchants themselves. For drilling and sorting the merchants employ Jains or Banias of the poorer class. The chief Arab pearl merchant in Bombay employs his own agents in the Persian Gulf, advancing them annually about a crore of rupees, and they ship the pearls to Bombay in the steamers of the British India Steam Navigation Company. Of European firms who deal in pearls the chief are Messrs. Finlay, Muir and Co., and Messrs. Graham and Co.

COMMERCIAL ASSOCIATIONS.

The Chamber of Commerce.

The Chief Commercial Association of Bombay is the Bombay Chamber of Commerce, which was established on the 22nd September 1836, under the auspices of Sir Robert Grant, then Governor of Bombay[1]. The European mercantile firms which were in existence at that date and lent their support to the establishment of the Chamber were few in number, the chief of them being Messrs. Skinner & Co.; William Nicol & Co.; Duncan, Gill & Co.; Leckie & Co.; Gisborne, Menzies & Co.; Ritchie, Steuart & Co.; Macvicar, Burn & Co.; McGregor, Brownrigg & Co.; Dirom, Carter & Co.; Gillanders, Ewart & Co.; and Firth & Co. These firms met in conclave and formulated certain rules and regulations which in the main exist unaltered at the present day (1909). The chief credit for the establishment of the Chamber is due to Mr. John Skinner, whose portrait adorns the rooms of the Chamber and who was Chairman of that body in 1836-37 and again in 1839-40. The longest period of Chairmanship was that of Sir Frank Forbes Adam, who controlled the activities of the Chamber without a break from 1883 to 1889. Among matters of importance which have from time to time occupied the attention of the Chamber of Commerce were, in the early years of its existence, the abrupt alteration of the rates of exchange established by the Indian Government for their advances on produce consigned to Great Britain, and later, the question of railway commu-

[1] Fontanier (Voyage dans l'Inde) wrote in 1844:—"L'institution récente d'une chambre de commerce favorisait d'ailleurs ce genre de recherches. Elle n'avait pas comme chez nous une existence officielle, mais e'tait formée par la réunion libre de conscripteurs. Quelques-uns des chefs des maisons les plus considerables avaient refusé d'en faire partie, et elle se recrutait par l'election. D'ailleurs elle était reconnue par le gouvernement, qui avait une grande déférence pour ses avis, recevait ses communications et lui transmettait les documents qui l'intéressaient; il sollicitait son concours pour l'examen des faits et la rédaction des actes relatifs an commerce. En 1838 la chambre de commerce était intervenue daus plusieurs actes utiles: elle avait fait modifier le systéme tracassier de douanes pour les droits du port, de la ville et de transit; elle avait influé sur la loi de douane de 1838, et contribué á la formation des tables d'importation et d'exportation. Elle avait appelé la sollicitude du gouvernement sur la plantation des mûriers et sur la culture des meilleures qualités de coton. Elle appuyait par ses travaux et son crédit une autre societè, qui s'ètait formée pour améliorer les communications avec l'Europe, et pressait l'octroi d'une charte pour établir une banque."

nication with the Western Presidency, the extension of the Bombay Docks, the reduction of Port Dues, the adulteration of wheat, the mixing of cotton, the employment of the surplus treasury balances of the Government of India, the gold reserve fund, and the creation of an Imperial Customs Service. Under legislative enactments the Chamber has the right of representation on the Bombay Port Trust, the Municipal Corporation, and the City Improvement Trust, while a representative of the Chamber is also included among the non-executive officers of the Council of the Governor of Bombay. The Chamber publishes, besides an annual report, a series of returns which show the course of trade from day to day, the chief of these being the daily arrival return, the daily trade return, import and export manifests published twice a week, and three statements issued once a month showing exports of cotton, wheat and seeds, imports from Europe, and the movement of piece-goods and yarn by rail. A weekly return of clearances, and a weekly table of current quotations are also issued. The Chamber elects as honorary members individuals distinguished for public services or eminent in commerce and manufactures. Among those so elected in the past were Lord Reay, and Messrs. A. H. Campbell and J. M. MacLean. The reserve fund of the Chamber amounted at the end of 1907 to Rs. 1,01,614-2-5.

The Millowners' Association.

Affiliated to the Chamber of Commerce is the Bombay Millowners' Association which was founded in 1875 with the object of encouraging friendly feeling and unanimity among millowners and users of steam and water power on all subjects involving their common good; to promote and protect in any way which may seem best the interests of millowners and users of steam and water power, especially of those who may be members of the Association; to collect and classify information on all matters of general interest, to obtain the removal, as far as such a society can, by all legitimate means of all acknowledged grievances affecting millowners and users of steam and water power as a body; to receive and decide references on matters in dispute, which may be laid for arbitration before the Association and to com-

municate with the public authorities and with any individual or corporation, when it may be needful to do so, on all subjects of general interest to members of the Association. During the first few years following its establishment the Association was engaged in bringing to the notice of the authorities the need for the protection of the cotton-industry, while since that date it has played a prominent part in the discussion of the provisions of the Factories Act, the Indian Trade-marks Registration Act and the Act for the regulation of Joint-Stock Companies, in endeavouring to get the rate for the use of water for industrial purposes reduced, and in procuring and rendering to members exact information regarding the requirements of certain markets in which Bombay goods appeared to be less well-known than they ought to be. Other questions considered by the Association have been the excise-duty on cotton goods, the import duties in China, and the packing of yarn for shipment to Eastern Ports. The clerical work of the Association is performed by the staff of the Chamber of Commerce.

The Bombay Native Piece-Goods Merchants' Association.

The Bombay Native Piece-Goods Merchants' Association was established in the year 1881 and had its origin in a covenant executed jointly by the dealers in grey piece-goods in the year 1879. The main objects of the Association are the promotion of the piece-goods trade in Bombay and the collection and publication of statistics referring to the trade. Among the subjects in which the Association has interested itself since its establishment were the correct stamping of piece-goods, the survey by European merchants of piece-goods ordered out by native dealers through European firms, the unsuitability of certain rules framed by the Port Trust for the clearance of piece-goods from Prince's Dock, the Indian Limitation Act, the Indian Merchandise Marks Act, and railway-charges for the transport of piece-goods from Bombay. In 1907 a public dispensary was opened under the auspices of the Association. The number of registered members of the Association in 1908 was 373.

The Bombay Presidency Trades Association.

The Bombay Presidency Trades Association was established on a firm basis for the first time in 1904, though for some years prior to that date it had enjoyed a

shadowy existence in the Bombay commercial world. Established primarily with the object of promoting and safeguarding the interests of the trading community of the Bombay Presidency and of collecting and distributing such information as might protect its members from loss and damage, the Association has busied itself with such questions as the location of the Central Parcels Post Office, the duty-free importation of goods by military officers, the problem of the prevention of dust in Bombay City, the collection of debts without recourse to law, and the levy of income-tax upon the proceeds of the sale of goods in Bombay by the representatives of English, American and Continental Houses. In 1906 the Association was enabled with the aid of Government to establish a Commercial Gymkhana Club on a plot of land situated near Wodehouse Bridge on the East of the B. B. & C. I. Railway line.

The Bombay Underwriters' Association.

The Bombay Underwriters' Association was established in 1872 with the object of preventing frauds upon underwriters and assisting in the prosecution of accused parties; of supervising the safeguarding and realization of the value of property saved from wrecks and affording assistance and advice to the commanders of wrecked vessels; of establishing a uniform procedure in matters of insurance and the settlement of salvage claims; of providing a good insurance library for the use of members; and of corresponding and acting in concert with associations of a similar character in other ports. At the date of its establishment the Association comprised about 20 companies, while it now (1908) comprises 46. The affairs and funds of the Association are managed by a Committee consisting of a Chairman, Deputy Chairman and three members, all annually elected by ballot.

The Bombay Native Stock-brokers' Association.

The native brokers in Exchange, Bullion, Stock and Shares had no association between 1840 and 1868. Between 1840 and 1850 there were about half a dozen brokers recognized by the banks and merchants, and they sufficed for the limited business then passing in one or two banks' shares and a few presses. Between 1849 and 1850 the late Mr. Premchand Raichand entered the

list as a broker at the age of 18 and he was the first broker who could speak and write English. Within seven years of his entering the field, he had nearly monopolized the broking business in Shares, Stock, Bullion, and partly Exchange and had gathered all strings into his hands. The other native brokers acted as his satellites. His education, his courteous and fascinating manners, his deep insight and quick calculation, and the advice he gave fructified into such happy results that he led captive the imagination of both Native and European merchants. Thenceforward to 1865 the history of brokerage is the history of Premchand Raichand. All enterprises in Bombay were either promoted by him, or promoted by others by his good will and help. Premchand's career attracted other men into the field and by 1860 the number had increased to between 30 and 40. In 1860-61 commenced the American Civil War which totally shut off from Europe the supply of American cotton. In consequence there arose a great demand for Indian cotton, which kept rising with the progress of war until it reached 27*d.* per pound. This brought vast wealth into Bombay and the Presidency between the years 1861 and 1865, in which Premchand shared to a larger extent than any other. Premchand although he remained a broker all his life, directed his financial genius between 1860 and 1865 to other pursuits. The sight of unprecedented wealth pouring into Bombay so fired his lively imagination, that he sought ways and means for utilizing it. His wonderful success, the belief in his star, and his fascination carried captive the imagination of Bombay and of the Presidency. There was no scheme of his however wild that was not eagerly taken up. As a result 6 reclamation companies, more than 6 banks, and a dozen financial associations were floated at the instance of him and those who followed his lead. During these years of excitement the brokers increased in number to the extent of 200 to 250. Many of them enjoyed a position of great wealth, authority and influence to which they have never attained since, nor will they ever attain again. Their advice and recommendations were impli-

citly followed. The Back Bay shares, Rs. 5,000, paid up, were at Rs. 50,000 premium. The Port Canning shares, Rs. 1,000 paid up, were at Rs. 11,000 premium. The Mazagon Land shares were at Rs. 9,000 premium. The Elphinstone Land shares were more than 500 per cent. premium. Yet none gave a chance of a return within the next ten years. Some of the banks and financial associations had reached from 50 to 100 per cent. premium without being tested by returns. The people were attacked by a delirium from which they only recovered with the close of the Civil War. Then everybody rushed to sell securities but found no buyers; and all the wealth received during the Civil War was represented only by a huge mass of unsaleable paper. Premchand and the brokers were anathematized. There were few left solvent in Bombay; and the merciful Act 28 of 1865 had to be passed as a finale to the whole business.

Between 1840 and 1855 the Brokers' meeting-place was somewhere on the Cotton Green (the modern Elphinstone Circle). Afterwards it was held between the old Fort Walls where Treacher's shop is now and the Mercantile Bank where Dunnet's shop now stands. During the American Civil War they were a privileged class. They created as much noise as they pleased, and obstructed the traffic as they liked without let or hindrance. After the crash, the number of Brokers fell to about half the original number. For the reasons above stated they first formed an informal association between 1868 and 1873, which was in the latter year transformed into an association with fixed rules of conduct. The increase in the business of the Association and the prosperity of its members attracted other people. At first the admittance fee was Rs. 5 which was gradually raised to Rs. 1,000. The number of members now is 311 and the Committee of the Hall has for some time stopped any new admission. A higher scale of admission fee and the taking of more substantial guarantees from new-comers are contemplated. The present Brokers' Hall was opened in January, 1899. The objects of the Association are to facilitate the negotiation of the sale and purchase of joint-stock securities promoted through-

out the Presidency of Bombay. In these the Association has entirely succeeded. Outside it, no securities can be negotiated, purchased or sold. The success of an enterprise depends upon its negotiability. The Stock Exchange is the medium for bringing buyers and sellers together.

The Grain Merchants' Association.

The Bombay Grain Merchants' Association was established in February, 1899, with the object of promoting the grain-trade of the Presidency, of regulating the conduct of trade, of settling disputed questions bearing upon this branch of commerce, of collecting statistics, of providing arbitrators in disputes and so forth. There is no fee for admission to membership ; but the members are expected to devote to the funds of the association a charge of one anna on every hundred bags sold and delivered by them. The Association has done a great deal towards obviating disputes arising from differences in weights relied upon by buyers and sellers, and took an active part in the amendment of railway risk notes.

Hand Industries.
Cotton and Silk Weaving.

Cotton goods constituted one of the oldest exports of India. They formed a large part of the business done by the East India Company. In connection with the encouragement of cotton and silk weaving in the island of Bombay, a Surat letter to Bombay, dated 4th November 1676, contains the following :—" We are assured if you and your brokers there would be as industrious as you ought in inviting and encouraging weavers to settle with you, that manufacture of calicoes would be increased much more than it is. We desire you therefore seriously and earnestly to take this affair into your consideration and to use all just means possible to invite and encourage weavers of all sorts to inhabit on the island. It is our opinion that seeing the country of Shivaji and Deccan is harassed and much ruined by the wars, if you did employ some persons to invite the weavers of those parts to come over to you, they would gladly accept it only for a secure livelihood sake. Wherefore use your endeavours herein. We give you notice that it is the Company's particular directions to ùs to procure as many *dangri* weavers to settle on the island as we can in regard that commodity is in re-

quest to whom also we would have you procure as many *pautka* weavers as you can, for they will also be necessary; and assure yourselves what industry and ingenuity you employ in this affair will be well esteemed by your Hon'ble Masters and by ourselves. For your better supply of cotton yarn for the keeping the said weavers at work we shall send you down by the *Hoigh* a considerable parcel of Rajapur yarn, which will be with you in a few days after receipt of this letter, whereof what is proper to be delivered out to the weavers for the making any sort of calicoes fit for Europe above mentioned we would have you so disposed of and the remainder be sold to the Company's best advantage."[1] By 1676 a regular industry had been established. The Company imported silk and cotton and distributed it to the weavers who worked under a *mukadam* and were paid partly in cash and partly in rice. In 1683 it was decided to establish a manufactory of knitted stockings: in 1735, by which date Bombay stuffs had earned considerable repute, the Council at Surat was directed to persuade weavers from Gujarat to settle in Bombay, houses being specially erected for them on the island; advances of money were from time to time made to weavers; while in 1758 the President arranged for the immigration of certain Bassein weavers, who were to manufacture goods for Jeddah and other western ports.

About the middle of the eighteenth century England began to manufacture her own cloth and owing to the use of machinery forged rapidly ahead of India. The export of cotton manufactures from India to England began to decline and became quite insignificant soon after the opening of the ninteenth century. About the same time (1813) that the ports of India were thrown open to English merchant adventurers, protective duties of 70 and 80 per cent. were imposed in Great Britain on cotton and silk manufactures from India, and some kinds of these goods were absolutely excluded. This was considered necessary to give a start to the new industry in England. English cotton goods now began

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[1] Bombay Gazetteer, Vol. XXVI, Part II, 131; Forrest's Selections from Government Records, Home Series, I, 108.

to be imported into India and in the 20 years ending 1813 the export of British cotton manufactures to India had increased from £2,000 to £108,000. The trade grew rapidly. The growth of the mill industry in India, especially in Bombay, tended to some extent to check its advance. The first Indian mill was opened by the Bombay Spinning and Weaving Company in 1858. Though the city has now nearly 100 mills, and thousands of hands are daily employed in them, yet the hand-made manufacture of cloth has not been wholly extinguished. In the city natives may still be seen weaving cloth upon old-fashioned hand-looms. Cotton-weaving is a recognised hand industry, especially among the Julahas, who generally weave coloured *saris* for native women. These *saris* are in great demand, as they are much stronger and wear better than the products of the power loom. Silk-cloth is also manufactured, and sold for *gagras* (petticoats) and *cholis* (breast cloths) to people from Gujarat and other up-country districts. The various kinds of brocade known as *kincobs*, *hemrus*, *masrus*, *lapas*, and *tas*, are worked into *saris*, *cholis*, waistcoats, *pagadis*, shoulder-cloths, *kamarbands*, *izars*, and so on.[1]

The principal parts of the city in which this hard working class resides are Duncan road, near Byculla, and the vicinity of Babula Tank. Reliable estimates show that handlooms still use much of the yarn imported into this country and that a large quantity of cheap cotton goods of various sorts are turned out by the Bombay weavers, both Hindu and Muhammadan, who according to the census of 1901 number 7,471 including 2,108 females.

Dyeing.

Much of the cloth manufactured at the Bombay mills is dyed in the city and its vicinity and exported to the Deccan and Konkan for the use of the Muhammadan community. The dyers, who are known as Rangaris, are mostly Muhammadans from Satara, Kathiawar and other districts. The number of dyers, including a few silk dyers, is about 1,200 according to the census of 1901.

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[1] For information regarding kinds of cloths produced see Monographs on Cotton and Silk Fabrics by R. E. Enthoven and S. M. Edwardes respectively.

For dyeing one pound of silk the dyer takes from 17 to 20 *tolas* (a *tola* weighing 180 grains) of ground kermes (bodies of female of *Coccus Ilicis*), which come from China. This is mixed with sufficient water to cover the silk and is poured into a copper or iron *handi*, and is put to boil on a *chula* or stove. The mixture is stirred, and when it boils the silk is dipped in it. The *handi* is then removed from the *chula* and the silk gradually sucks up the water, becoming dyed in about half-an-hour. The silk before being dipped into the kermes water is placed in a solution of alum.

The process of dyeing cotton cloth or thread in various colours is described below :—

(*i*) *Kusumba dyeing.*—*Kusumba* (*Carthamus tinctomous*) is the vernacular name of the safflower, whose seeds, called *kurdi*, provide an oil. The process of extracting the dye is as follows:—One maund of the *kusumba* is spread upon a cotton cloth, which is tied by the four corners to a wooden stand about 3 feet high. About 4 maunds of water are poured over the *kusumba*. As it strains through the cloth it carries away all impurities and is eventually thrown away. The *kusumba* is then kneaded with the feet for about half-an-hour, until it becomes of a dull yellowish colour. After this the cloth is again stretched on the wooden stand, another four maunds of water are poured upon it. The dye, of a dull yellow colour, runs through and is received in a copper *handi* placed below. It is then mixed with an infusion of dry mangoes or limes, which changes the yellow dye to a rich red colour. The cloth to be dyed is dipped into it and comes out pink. It is then wrung dry, and this operation is repeated three or four times. If a redder tinge is required, more lime juice or mango-water is added. If a very deep red dye is desired, *haldi* (turmeric) is added to the *kusumba* and mango-water.

Another method of dyeing cloth red is by using Pattan wood, imported from the Malabar coast. It is beaten by a hammer to powder, with every maund of which two *tolas* of *chunam* are well mixed. These are thrown into a *handi* containing 3 maunds of water,

which is boiled, stirred and allowed to cool. The operation is repeated three times until the colour has been boiled out of the wood. The mixture is then strained. The fabric to be dyed is first washed in a strong solution of *hirda* (*Terminalia chebula*). It is then wrung dry, and dipped into a solution of *phatki* (alum) after which it is taken out, wrung dry, and immersed in the pattan wood water for about 2 minutes. Washed once or twice, it fades.

(*ii*) *Yellow dyeing*.—Half a *ser* of *haldi* (*curcuma longa* or turmeric) and a *tola* of *papadkhar* are ground together and put into a vessel containing water. The cloth to be dyed is immersed in this vessel for about 2 hours, when it is taken out and wrung dry. This operation is repeated four times, care being taken to wring it dry after each dipping. The cloth is then of a red colour. The juice of about 12 limes is added to a recognised quantity of water, and the cloth is dipped into this, and left for about an hour. On being taken out it will be found to have changed to a yellow colour, and is ready for use.

(*iii*) *Purple dyeing*.—The cloth is first dipped into a solution containing indigo and is then washed three or four times in plain water until the cloth turns a faint blue colour. It is then dipped in *kusumba* water and treated in the same way as in *kusumba* dyeing.

(*iv*) *Green dyeing*.—The cloth is first dipped in a strong solution of indigo and is then treated as described in yellow dyeing.

(*v*) *Black dyeing*.—Half a *ser* of *hirda* and one *tola* of *hirakas* (sulphate of zinc) are mixed together and placed in a vessel containing 2 maunds of water. The cloth is placed in this mixture, for 3 or 4 hours, is then washed in fresh water and wrung out.

(*vi*) *Indigo dyeing*.—Five *sers* of indigo are placed in a stone basin of water and kneaded by hand until the indigo is dissolved. Two *sers* of chunam (burnt lime) are then mixed with two *sers* of *saji ka khar* (impure carbonate of soda), and thrown into a wooden vat containing about 5 maunds of water. The indigo water is then added, and a little *jagri* or dry dates (*khajur*) are

thrown in, to prevent the lime burning the hands. This mixture is stirred and allowed to stand for two days. The cloth to be dyed is put into a vessel of fresh water, and after being thoroughly wrung out is dipped in the indigo vat, where it is allowed to remain about five minutes. After being taken out it is wrung dry, opened and stretched in the open air on the ground. After it is dried it is again dipped in the indigo, and this process is repeated four times. The colour is then fast. The cloth is finally washed in fresh water and placed on a plank where it is beaten with a wooden hammer.

Chapa and Chindari work.

Persons employed in *chapa* (*printing*) work are known as *Chaparias* or printers of *saris*, a number of whom are settled in Bombay. Their work is on the whole fair, considering the great competition with European goods. *Chindari* or knotted designs, also called knot-dyeing or *bandhani*, is another method of decorating cotton and silk goods. It closely resembles printing, and appears to have been first devised to overcome the difficulty met with in the production of white spots on a dark dyed ground. It is largely practised in Gujarat, Cutch, Sind and Bombay, and is scarcely met with in other regions of India; whence we may infer that it had its origin in Gujarat, Cutch and Sind. Knot-dyed goods, which are generally handkerchiefs, *saris*, bodices, petticoats, trousers, borders, turbans, &c., are made chiefly for Gujarat Hindus and Parsis. The process is as follows:—The designs are first sketched, or printed in outline, on cloth which has been once dyed; parts of the cloth are then picked up, and a thin thread twisted round them, a small projection being generally left in the centre. The cloth is then dipped in a dyeing vat of a colour different from that applied in the first instance. When dry, the threads are removed, and the parts previously protected by them are exposed in the original colour, the variety thus produced adding much to the value of the cloth. A large number of *Chindari* workers reside in Bombay, their central place of business being near Nall Bazaar; but the work is carried on also in other parts of the city.

Gold and silver thread is manufactured in Bombay, and is chiefly used for lace. Embroidered silks are little worn by Hindus, except by the Gujarat women. The number of embroiderers and lace and muslin makers in Bombay, according to the census of 1901, is about 1,000.

Embroidery.

Oil pressing in *ghanas* or primitive oil presses is an old industry. The press costs about Rs. 200 including the costs of the bullocks. It includes a *ghana* or cylindrical block half buried in the ground and a wooden roller to which a heavy weight is hung and which is turned by two bullocks. One press, worked the whole day with two bullocks, produces 2 maunds of *til* (sesamum seed) oil and 4 maunds of cocoanut oil. *Til* is mostly imported from Barsi, Sholapur, Gadag and Secunderabad and cocoanuts from the Malabar Coast and Zanzibar. *Til* yields about 40 per cent. of oil and cocoanut nearly 60 per cent. The price of *til* oil is at present Rs. 5½ to Rs. 6 per maund. The cake of the *til* and cocoanut is generally sold to milkman for cattle-food.

Oil Pressing.

Bombay contained some years ago a few large oil pressing establishments, the earliest having been established by a Muhammadan about 90 years ago. He earned a profit of Rs. 1000 to 1500 a month and stored his oil in a stone tank. The business is not so remunerative now on account of a decreased demand for oil. Kerosine oil is mostly used for lamps, and what is required for culinary purposes is supplied by the ghanawallas. Bombay now contains one oil mill worked by machinery. Some improvements have been made in the primitive presses.

A Parsi started a sugar-refinery in partnership with others, about 21 years ago. His factory was in a *wadi* in Mahim, whence he moved to Umarkhadi, where he continued the business for 15 years. He had a sugar-candy shop in Mumbadevi. Competition forced him to discontinue sugar-refining about seven years ago. Bombay contains now (1909) about 25 factories licensed by the Municipality.

Sugar refining.

The process of manufacture is as follows :—Sugar is first boiled with water, and then pure milk is added to purify the sugar. The syrup is then put into large

trays and allowed to settle for four days, when fine white crystals appear on the top of the trays, which are removed and cut into pieces. This is the first-class sugar-candy (*patri*), sold at Rs. 4 per maund. The inferior kind, sold at Rs. 3 per maund, is reddish. The syrup which drains from raw sugar is used for preparing molasses or treacle, which is sold at Rs. 2 per maund.

Sugar is obtained mostly from Mauritius. The Bombay product used to be sent to Baroda, Surat, Bhavnagar, Ahmadabad, Zanzibar, and even to China. The chief workman in a sugar refinery is paid Rs. 30 per month, and others from Rs. 10 to Rs. 15 per month. Women employed in cutting large pieces of sugar-candy are paid 3 to 4 annas per day. The workmen are chiefly Hindus from Kathiawar.

Preparation of ghi.

About a dozen merchants in Bombay prepare inferior *ghi* for consumption in the city and for export. The trade originated about 25 years ago; and as people in those days were not particular as to quality, the *ghi* traders reaped a large harvest. The preparation of *ghi* varies with the quality required. The superior quality consists of 50 per cent. of fat, 25 per cent. of *ghi*, and 25 per cent. of sweet oil, while the inferior quality consists of equal proportions of fat and oil. The fat is imported in tins from Aligarh, Kudchi, Belgaum and Kurla. All that the trader has to do is to put the fat on a slow fire and add the oil to it, or put boiling oil into the tins of fat and stir it up. The profit on sales is about 25 per cent. Inferior *ghi* is exported to Rangoon, Singapore and other places. The number of *ghi* preparers and sellers, as shown by the census of 1901, is 146.

Manufacture of Sweet-meats.

The oldest sweet-meat manufacturer was Amichand Govindji, who established his business about 130 years ago at Bori Bandar, at a spot then known as the Three Gates. At the present day there are many sweetmeat-manufacturers in Bombay, who earn a good profit. Formerly three sorts of sweetmeats were manufactured, whereas at present there are a very large number of varieties. The following ingredients are used in the manufacture of sweet-meats: Flour (rice, wheat or gram), sugar, *ghi*,

dry fruits (almonds, pistachios, etc.), saffron, spices, cardamom, nutmeg, etc., extract of wheat known as *nisastaa*, rosewater and other essences. The *ghi* used in the manufacture of sweet-meats costs from Rs. 15 to Rs. 20 per maund.

The daily out-turn and sale is 12 to 15 maunds. The rate of sale is ans. 3 to ans. 4 per *ser*. Amichand was the first man to introduce the manufacture of *halva* in Bombay. The best *halva* keeps for a long time and is exported to all parts of India, China, Europe and Africa. The employés in this business are Marwadi Brahmans, who are paid Rs. 15 to Rs. 20 per month with board and lodging. The number of sweet-meat makers in Bombay, according to the census of 1901, is 350 and that of sellers is 1,400.

Bakeries.

One of the best-known bakeries of old times was established about one hundred years ago by a Goanese in Old Hanuman Cross lane. In this locality all the Goanese Christians then resided. It is stated that besides conducting his bakery the owner kept a hotel for Europeans, which was well patronised. He started his business with a capital of Rs. 500 and the profit of his trade enabled him to live luxuriously. He supplied bread to Government House and the Commissariat Department, and had about 300 customers. His staff consisted of 25 Goanese servants and a master baker, besides several Hindu women who were employed in grinding wheat. These Goanese servants besides being paid their wages were allowed to sell bread. They purchased from their master bread of the value of Rs. 2 or Rs. 3 and resold the same at a higher price. By this means the men realised about Rs. 15 a month. This practice is still in vogue among Goanese bakers, and other bakers allow their men a commission of one to two annas on every rupee's worth of bread sold to cash customers. The pay of the master baker is at present about Rs. 35 and that of servants about Rs. 12 per month with board and lodging. In former days the price of superfine bread was 2 annas a loaf, while it is now $1\frac{1}{2}$ annas. The fall in price is due to the facilities now existing for procuring wheat of the best quality. Super-

fine bread is at present prepared from wheat known as *pishi*.

In Bombay, especially in the Muhammadan quarter one frequently sees the peculiar ovens called *Tannur* which are used for the purpose of baking *nan* bread. The owners of these bakeries (known as *nanvais ki dukan*) are mostly Mughals, but a few are owned by Muhammadans also. These *tannurs* or ovens are made of sticky clay dug out of paddy fields and mixed with the hair of goats' feet. They are built in the form of large jars, are three or four feet high, bulging out in the middle, and are narrow at the mouth. Sea sand is put around the oven for the retention of heat. A hole at the bottom allows the free access of air. The oven can be kept cool or warm as desired. The mouths of these ovens are never closed. The flour used is leavened with bi-carbonate of soda, and about 16 tolas of it are required for one *nan*, which is made with the fingers. During the kneading process the fingers are dipped in a solution of gram flour and water, which is supposed to give the bread a yellowish tint. The *nan* is circular, measures about a foot in diameter and is a quarter of an inch thick. These *nans* are purchased by the Mughals, Bohras and other Muhammadans, and are considered very palatable and nutritious. The bakers in this line do a good trade but have to pay a very high rent and defray other expenses. They are suffering at present from excessive competition. According to the census of 1901 the number of bakers in Bombay is 1,400.

Manufacture of Bidis.

One of the first shops in Bombay for the sale of *bidis* or native cigarettes is supposed to have been opened by a Brahman in Erskine road in 1836. Another account states that the first *bidi* shop was opened in Varli by a Khoja about 125 years ago, and that his heirs are still doing the same business on a very large scale.

Bidis are made of tobacco rolled up in dry leaves of the *temru* tree. In former years *apta* leaves were used for this purpose. Tobacco comes chiefly from Jubbulpore, Nipani and Petlad, which are famous for superior quality; and the chief stations for *bidi* leaves are Dahnu

Umbargaon, Bulsar and Nagpur. Tobacco can only be purchased from the bonded warehouse in Mandvi by the holder of a license granted by the Collector of Bombay. A tax of annas 3 is paid for one Bengal *ser* of tobacco. The license fee is one rupee per annum. Three kinds of tobacco are generally kept in the shops and the price varies from Ans. 3 to Ans. 6 per Indian *ser* according to strength. Old *bidi* leaves are sold at the rate of 2 Ans. per 5 or 6 *pudas* (bundles) and if new at 2 Ans. for 8 *pudas*. Each bundle contains 50 to 100 leaves. 1,000 *bidis* are prepared from one seer of tobacco.

There are about 900 *bidi* shops in Bombay. Each licensed shop has to be at a distance of 50 yards from another and must have convenient accommodation. Whenever a shop is to be moved a fresh fee must be paid for the license. Many *bidi* shops sell English cigarettes, for which another license is necessary. No *bidi* license is transferable. The license holder is bound to sit in the shop, and if he wishes to leave Bombay he has to get permission from the authorities concerned and place the shop in charge of another person until he returns. He has to keep an account book according to standard.

The following table shows details of the quality and cost of the chief classes of *bidis* :—

Quality of Bidis.	Quality of Tobacco used.	Weight of Tobacco used for 1000 Bidis.	Cost of Tobacco used for 1000 Bidis.	Cost of Bidi leaves used for 1000 Bidis.	Amount of labour paid for 1000 Bidis.	Rate of sale.	Total cost per 1000 Bidis.	Profit per 1000 Bidis.
							Rs. a. p.	Rs. a. p.
First ...	Strong (annas 6 per seer)	1½ seers.	Annas 9.	Annas 4	Rupee 1.	8 per pice.	1 9 0	0 6 3
Second.	Moderate (annas 4 per seer)	1¼ seers	Annas 5.	Annas 2½	Annas 12½.	10 per pice.	1 1 6	0 7 6
Third ..	Mild (annas 3 per seer)	1 seer.	Annas 3.	Annas 2	Annas 10.	12 per pice.	0 13 0	0 7 9

N. B.—The cost of Bidi leaves is paid by the women who make Bidis. Recently a species of native cigarette, known as "Swadeshi cigars" have been offered for sale in *bidi* shops.

Kamathi women are mostly employed in making *bidis* at the rate of 10 Ans. per 1,000. These women have to bring their own leaves while tobacco and thread is supplied by the owner. Each woman is able to make 1,000 *bidis* a day, while some are expert enough to make 2,000 a day. Little girls make about 500 a day. Most of the *bidi* shops are in Kamathipura, Falkland road, Duncan road, Grant road, Kalbadevi road and Girgaum. The income of a *bidi* shop depends on locality and is usually a paying concern in spite of competition and heavy rents. Hence there is a constant demand for new licenses. Many *bidi* shops sell matches, *pan* and betel-nut, which materially adds to their income.

The first step in the process of *bidi* manufacture is to soften the leaves with water. They are then trimmed with a pair of scissors. Two leaves are taken for one *bidi*, two or three pinches of fine tobacco are put inside them, and then they are rolled between the hands and finally secured by means of a piece of thread. The two ends are then closed and the *bidi* is ready for use. Formerly tobacco was sold at from one to two annas per *ser*. The present rate is 3 to 6 annas per *ser*. From 8 or 10 bundles of leaves used to be obtainable for 2 annas, whereas to-day only 6 bundles can be obtained for this price. This is partly due to a rise in shop-rents, the rent of a shop in 1836 being Rs. 2 per month and of the same shop at the present date Rs. 75. The wages of female *bidi*-makers have risen to 8 or 12 annas per 1000, and the monthly expenditure of shops to Rs. 150, against 2½ annas and Rs. 20 respectively in 1836.

Manufacture of Snuff.

The most famous snuff shop in Bombay in the nineteenth century stood near the corner of Samuel street and Musjid Bander road and was known as "Samu shet's pedhi," the proprietor being a Bhattia. The tobacco used in the manufacture of snuff is imported from Gujarat, the Deccan and Madras. It is sold at the rate of Rs. 15 per maund. The rate at which snuff is sold varies according to quality from 6 to 14 annas per lb.; and the men employed in its manufacture receive from Rs. 10 to Rs. 12 per month with board and lodgin . Snuff shops pay a

licence fee of one rupee a year. The industry requires no capital to start with, as tobacco farmers are willing to sell tobacco on credit to snuff merchants, if the advance is repaid in weekly instalments.

A peculiar kind of snuff known as "Maccoba snuff" comes from England and is sold in small bottles. This is purchased chiefly by Parsis and Europeans who mix country snuff with it. Madras snuff, which is imported into Bombay, is prepared in a peculiar manner. The tobacco is first fried in pure *ghi*; its fibres, etc., are taken out and separated, and the leaves are then powdered in a cocoanut shell and sifted through a piece of fine linen. Two lbs. of tobacco worth one rupee produce 1¼ lb. and 5 tolas of snuff worth Rs. 1-6-0, leaving a clear profit of 6 annas per rupee. Tobacco and snuff manufacturers and sellers in Bombay number about 2,800 according to the census of 1901.

Recovery of Gold and Silver from Embroidery.

A distinct class of men known as *Jariwala* are engaged in the recovery of gold and silver from old embroidery. Old clothes and caps, etc., are bought and carefully sorted, the embroidery removed and washed. The latter is burnt and the ashes placed in a flask and a considerable quantity of almost pure nitric acid is added. The whole is then gently heated over an open charcoal fire on the floor of the room. This causes evolution of dense reddish brown fumes of a very irritating character. This operation is carried on until the fumes cease to rise, after which the greenish blue liquid in the flask is poured off into a large basin. Fresh acid is now added to the deposit in the flask and the heating process is repeated until all the silver is extracted. The residue or deposit left in the flask is subsequently treated for the extraction of gold.

Work in Precious Metals, etc.

Gold and silver are worked into ornaments in Bombay; but the work does not differ from that in other parts of the Presidency. The custom of loading women and children with the greater part of their wealth, which is practised by all classes and castes of natives, ensures to goldsmiths everywhere a lucrative trade. The usual method adopted is to place in the goldsmith's hands the metal to be converted into ornaments, he generally

charging from 8 annas to Rs. 2 or 3 per tola for his labour. The poorer classes wear many ornaments made of baser metal. In the city and neighbourhood of Bombay there are about 4,400 goldsmiths, who find constant and lucrative occupation. A few shops have recently been opened for the sale of ready-made articles.

Brass and Copper Work.

Brass and copper are worked by craftsmen who produce household utensils, lamps, *chattis* of all shapes and sizes, and water pots and *lotas* of all descriptions. They are all more or less roughly turned out and devoid of any exterior ornamentation, their only claim to notice being the shape of some and the colour of the metals and the sheen given by the work of the hammer. The copper bazaar, opposite Mumbadevi Tank, is the busiest and noisiest street in the city. There are about 4,000 brass-workers and coppersmiths and 5,000 blacksmiths in Bombay.

Iron Work.

Though Bombay has to import all her iron as well as copper from England, great progress has been made in the iron industry, and now, with the important exception of machinery, there is hardly any description of iron work which cannot be manufactured in Bombay.[1] A brief account of iron foundries is given in the concluding portion of this chapter. The import of kerosine oil has given rise to a new industry. Bohras buy empty tins for about 2 annas each and fashion them into lanterns, boxes, trunks, oil-pots and other cheap articles.

Wood carving and furniture making.

Wood-carvers from Surat and other places carry on this industry in Bombay, which is celebrated for the manufacture of carved blackwood furniture. Screens, teapoys, writing-desks, flower-stands, etc., of this are generally of very elegant appearance and often of exquisite design ; but the ordinary couches, chairs and large tables of carved blackwood are heavy and clumsy and the use of them has been given up in Bombay in favour of polished blackwood or teakwood furniture.[2]

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[1] Artistic wrought iron work was first taught in the school of Art in 1863, when Mr. Higgins was engaged from England to give instruction in the Art. On his death in 1869 the workshop was closed, but was re-opened when the Reay Art workshop was established.

[2] For information regarding wood-carving, see Monograph on Wood-carving by Mr. J. A. G. Wales.

Ivory and tortoise-shell are worked in Bombay as in Gujarat into ornaments for women. The tortoise-shell is imported from Zanzibar and the ornaments made from it are worn on the wrist by the poorer Gujaratis. The shell is also worked into armlets. *Ivory and Tortoiseshell Manufacture.*

Inlaid work,[1] for which Bombay has long been famous, is stated to have been introduced about 1800 from Hyderabad, Sind, whither it was originally brought from Shiraz in Persia. It is otherwise said to have been introduced from the Punjab and is therefore familiarly known as "Multan work." The articles chiefly made are paper-knives, work-boxes, writing-desks, watch-stands, card-cases and other similar articles. The industry gives employment to several hundreds of workmen in Bombay. The following materials are used in the work :—Tin (in the form of wire, used in the ornamental veneer); ivory, sandalwood, deal, blackwood, ebony, and other woods generally used both as framework and in the ornamental veneering; and stag horn (*sambar sing*) used for the same purposes. Glue, preferably Ahmadabad glue, is used for binding the frame and veneer work. The tools used are the *katt* or wheel for drawing the tin-wire into different shapes required for the preparation of the ornamental patterns; saws, large and small; files, coarse and fine, for the ivory work; chisels; drills (for piercing sockets for certain portions of the ornamental veneer); planes; and a T square.[2] The patterns in common use in Bombay are the *chakkar* or circle, the *katki* or hexagon, the *tinkoma gul*, compounded of wire, ebony, ivory and stained horn, the *gul*; and for borders the *gandiris*, compounded of all the materials, the *ekdana* or row of beads, the *sankru hansio* and the *poro hansio*. Manufacturers of inlaid work deal largely in carved sandalwood boxes from Kanara and Gujarat, and sometimes themselves employ wood-carvers. *Inlaid Work.*

Bombay contains about three hundred coach factories. The first factory was established in the year 1808 by *Coach Factories.*

[1] For detailed account of inlaid work and furniture-making, see Times of India of 1st June 1850, and Journal, B. B. R. A. S. Vol. VII.

[2] Journal of the B. B. R. A. Society, Vol. VII, 1861-62, 1862-63, page xvii.

Pallonji Bomanji Palkhiwalla at Dhobi Talao, in the first house on the right at the mouth of Girgaum road. He took his surname from the trade in which he was engaged, *viz.*, that of making palanquins. For a period of fifteen years the trade of supplying palanquins to bank managers, brokers and doctors flourished. Each palanquin was worth between Rs. 400 to Rs. 600 according to the amount of decoration. Then the shigram was introduced, which is still used by brokers. After the shigram came the canoe-shaped phaeton, then the buggy, the landau, the brougham, the victoria and lastly the landaulette. The workmen engaged in the construction of palanquins were Hindus and Goanese, who were paid from Rs. 15 to Rs. 20 a month as compared with Rs. 75 and Rs. 80 now-a-days. The same class of men are still engaged in the construction of carriages. The wood used for the construction of palanquins was babul and teak from Surat and Burma, while the wood used now for the construction of carriages is babul, *bhendi saven* or whitewood, and teak from the Deccan. Pallonji started his factory with a small capital of Rs. 500 and gradually amassed a fortune. In the old days the sale of 2 or 3 palanquins a year sufficed for the upkeep of his establishment and his home. After the introduction of carriages his wealth increased more rapidly. He supplied carriages to Kabul, Persia, Singapore, Baroda, Kathiawar and other places in India. The firm still exists in Kalbadevi road, under the management of his descendants. The introduction of motor-cars has caused a slight decline in the trade.

The workmen employed in the construction of carriages are all Hindus except the painter and carpenter who are Goanese. It is now possible to establish a small factory with a capital of Rs. 2,000 or thereabouts employing only 2 or 3 workmen. These factories are scattered all over Bombay.

Lime Kilns. There are three kinds of lime kilns in use in Bombay. One is used for manufacturing lime for white-washing purposes, another for making lime for masonry works, and the third kind is used for lime intended for eating. Lime for eating is prepared from Muscat stones which cost Rs. 5 per *khandi* (20 maunds) and the lime produced

is sold at Rs. 7 per *khandi*. White-washing lime known as *donga* is prepared from oyster-shells brought from Ratnagiri. This lime is sold at 3 annas per maund, while the actual cost is 2 annas per maund. Lime for masonry works is prepared from stones dug out of paddy fields, from oyster-shells, scraps of marble and Porbandar stone. The cost of lime for masonry work is Rs. 2 per *khandi* and the selling price is 2½ per *khandi* (known as *phara khandi*).

The first lime-burner (*chunnawalla*) in Bombay, according to local report, was one Haji Mahomed Usman, who built a kiln at Powder Works Bandar about 25 years ago. There are now several kilns in Bombay. The chief dealers in lime are Memons. A capital of Rs. 5000 to Rs. 7000 is required for starting the business. The workmen are paid 6 annas per day, and women 4 annas per day. Lime, chunam and shell burners in Bombay were returned at the census of 1901 as numbering 109 and sellers of these articles, 311.

Brick and Tile-making.

Bricks and tiles are made in considerable quantities in Bombay. Tiles are burnt together with bricks in roofless open kilns, which contain from 10,000 to 15,000 each. The fuel consumed is chiefly rice-chaff, with a considerable quantity of wood and some horse litter. Mangalore tiles are much superior to the ordinary Bombay tiles, as they last for years without requiring removal, while Bombay tiles have to be turned every year. The Bombay Brick and Tile manufactory, situated at Sewri, supplies very good tiles, and earthen blocks suitable for building purposes. The number of brick and tile makers and sellers according to the census of 1901 is about 800.

Potteries.

The first noteworthy pottery was opened by the Governor of Bombay in 1877 at Naigaum road and is known as the Pherozshah Pottery Works. The joint-owners were Messrs. D. C. Ratnagar and Pherozshah Pestonji Meherhomji.[1] A sum of Rs. 20,000 was expended in establishing the factory. White clay is obtained from Cutch-Bhuj and from Jubbulpore and the red clay comes from Kurla. It takes from 10 to 15 days to manu-

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1. These two Parsis are said to have studied the art in England and America.

churches and the other two prepare paraffin candles by machinery. In order to prepare pure wax candles the wax is first melted and allowed to stand for some time. It has then to undergo a fresh washing every fortnight for two months and is exposed to the heat of the sun, by which time the wax is completely bleached. The preparation of these candles by manual labour is interesting. A large iron ring which has about 50 hooks attached to it, is suspended from the ceiling by means of a rope. On these hooks are placed the wicks. Under the ring is placed a fire on which the wax is kept boiling in a copper pan. By the use of a copper ladle the melted wax is poured on to the wicks in rotation. This process is continued till the required size of the candle is obtained. The candles are then taken off the hooks and placed on a wooden table where they are rolled by hand and cut into shape. The candles are then thrown into a vat of water and allowed to cool. To prepare fifty candles of ½ lb. each twenty rupees, worth of wax is required.

Catgut-making.

The unwholesome trade of catgut-making is carried on to some extent at Varli The process of manufacture is as follows :—The intestines of sheep, as soon as they are purchased from the butchers, are put into a vessel containing water and cleaned externally by the intestine cleaners. The dung, &c.,is removed by them by drawing them through the fingers. They are next drawn over the rib of a sheep, which removes the fat and dirt and thins them. The cleaned intestines are then sold to a merchant called from his trade a *tantgurra*. The *tantgurra* soaks them in water for three days and then scrapes them with an iron scraper known as *jora*. After three days he soaks them in the sap of the *rui* tree (*Calatropis gigantea*), which makes them firm and strong. The intestines by this time are reduced to about ⅛ of an inch in size. They are finally put on a wheel and twisted into a cord, which is afterwards dried and sold as *tant* (catgut).

Fibrework.

Mats are manufactured from coir (cocoanut fibre). Very good cocoanut fibre matting is made at the House of Correction and is useful for covering the floors of

verandahs, billiard rooms, &c. China matting was, until recent years, almost invariably used for dining, drawing, and bed rooms, but is now being discarded in favour of the more attractive reed matting of Madras, which is manufactured for cabinet-makers by Madras workmen in Bombay.

Leather work.

Leather has long been worked into a variety of articles in Bombay. One of the most curious of leather articles is the jar (*dabaro*) used for holding oils and *ghi*. The *dabaro* is made by stretching fresh skins over a dry hollow mould of clay. The skin is left in this position until it has become dry, when the clay mould is broken, the leather retaining the form of the earthen jar. The rim is made by twisting pieces of skin round clay, the latter being left inside. Leather scales are made on circular earthern jars (*matkas*). Very good boots and shoes, saddles, bags, &c., are made in the European fashion by native workmen. In former years army accoutrements, manufactured in Bombay, were supplied for the use of the British troops; and Mr. Tanner of Bombay realized a large fortune in this branch of business during the year of the Mutiny. Mr. (now Sir) Adamji Peerbhoy has a large tannery and factory near Dharavi, which turns out excellent work [1]. The census of 1901 showed the numbers of shoe, boot, and sandal makers in Bombay to be about 5,500.

Salt manufacture.

The salt-works of the island of Bombay are situated in a compact group in the north-east corner between Sewri and Sion on the borders of the Bombay and Mahul creeks. In 1872, when the Bombay Salt Department was reorganized, there were 21 of these salt-works, producing annually an average of 650,000 maunds of salt. In 1889 two new private works were opened, and in 1890 a third, the Wadia Mahal, which is one of the most important sea-salt-works in the Bombay Presidency. The land for this work, measuring about 263 acres, was granted by

1 The following remarks regarding shoe-making in Bombay are made by Mrs. Postans in "Western India in 1838," Vol. I, p 82 :—
"Bombay is singularly deficient in shoe-makers; those pursuing the trade have little knowledge of the art ; and the leather in use speedily becomes worthless on account of their abundant use of lime water in the preparation of the skins."

Government in perpetuity and rent free to the late Khan Bahadur Jamsetji Dhunjibhoy Wadia, in recognition of his long and meritorious service in the Government Dockyard. In 1901 the Hiragurli salt-work was closed, as its average annual yield was less than 5,000 maunds; and consequently there are at present (1908) 23 salt-works which constitute the so-called Matunga taluka. The taluka is in charge of a first-grade *Sar karkun* and is sub-divided into six *sazas* or blocks, each under the supervision of a *Sazedar*. With the exception of five Government salt-works which are farmed, the Matunga works are the property of private persons with limited rights. These private owners, who are styled *Shilotris*, number 79; they belong to the Parsi, Prabhu, Muhammadan, and Native Christian communities, and comprise both wealthy capitalists and the poorer proprietors of only a few pans. The actual salt-manufacturers belong to five distinct classes, namely, the Agris, Kolis, and Native Christians, who are residents of the island, and the Dublas and Kharvas of Surat, who regularly travel every year in the fair season from Gujarat to Matunga and the neighbouring salt talukas of the Thana District, returning to their homes at the commencement of the monsoon. The Kharvas, who are expert in the manufacture of light salt, and others are paid sometimes by piece-work, sometimes by a daily or monthly wage, and sometimes by a share of the produce. The average earnings of a single worker for the season (January to May) range from Rs. 20 to Rs. 50.

The site chosen for a salt-work is usually in close proximity to a creek or estuary below the level of high tides. The site is first surrounded by a strong embankment, the space so enclosed being divided by interior embankments into three divisions,—the outer reservoir (*khajina*), the inner reservoir (*tapavani*), and the pans (*agar*). The area of the pans is usually equal to that of the inner reservoir, and the aggregate area of them both equals the area of the outer reservoir, the space allotted to the pans being thus one-fourth of the whole; while the levels of the three main divisions are so adjusted that the outer reservoir is filled at each spring tide, and that the water flows gently from it into the inner reservoir,

and thence, when the sluices are opened, into the pans. The pans are formed by small mud partitions, two feet broad, which cross one another at right angles throughout the whole pan area, thus forming a number of rectangular crystallising beds. Immediately after the monsoon the floor of each pan is levelled, trodden down and beaten with rammers till its surface is hard and watertight; and in October or November the outer reservoir is filled at high spring-tide, the sluice being closed when it is full. Having remained for some time in the outer reservoir, the water is passed off into the inner and is there allowed to concentrate by evaporation until it forms standard brine. The depth of water in the inner reservoir is from nine to eighteen inches. When the brine shows signs of forming into crystals it is drawn off into the pans to a depth of 3 to 9 inches; and there in the course of about fourteen days the water evaporates, leaving the salt crystallised on the floor of the pan.

The formation of the crystals depends chiefly upon the manner in which evaporation takes place. Local manufacturers allow the water to evaporate wholly in the pans and thus produce a hard but somewhat impure salt, containing occasionally as much as 10 per cent. of dirt. The Surat Kharvas, however, let the brine in by degrees, the first supply being left untouched till crystals begin to form. It is then skilfully scraped with a rake to give the crystals scope to form, as well as to quicken evaporation; and, as soon as the crystals begin to dry, a fresh supply of brine is introduced and mixed with the product of the first. This process is repeated three or four times, as the recrystallization purifies the salt and the raking, while aiding, the formation of crystals, gets rid of superfluous water.[1] The salt thus produced is of light quality and is much appreciated in other parts of India, particularly in Madras. Another class of salt, known as *kuppa*, is specially manufactured at Matunga for the consumption of the richer classes in Bombay. The evaporating pans, which are very shallow, are generally divided into smaller

[1] For an exhaustive account of salt making in the Konkan, see Bombay Gazetteer, Vol. XIII (Thana District), Part I, pp. 363-378. For history and details of Salt-Revenue, see article on Finance and Miscellaneous Revenue.

receptacles by temporary ridges *(adkas)*, and the salt is scraped every second or third day before the crystals become consolidated. Salt of this kind is very pure and white, but the crystals are small and so brittle that they cannot be transported far. Hence it is sold chiefly in the Bombay markets and fetches more than double the average price of other kinds, exclusive of duty. Five grades of salt are recognised for trade purposes.

The salt in the pan being ready for removal, the manufacturer draws it on to the ridges by means of a wooden scraper *(neola)*, composed of a thin board, 2 feet long by 8 inches broad, fastened to a long bamboo. There the salt remains for two or three days to dry and is then sifted through sieves of varying mesh. After sifting it is removed in baskets to adjoining platforms where it is stored in conical heaps of from 200 to 400 maunds. On completion of the heaps they are numbered and brought to account in the books of the Salt department, and no salt is allowed to be added to them afterwards.

The salt produced at Matunga is largely exported to the Central Provinces, Berar, Bengal, Mysore, and the Nizam's Dominions, the bulk of it being consigned by rail from Dadar Station on the Great Indian Peninsula Railway. It is also much used in the Nasik, Khandesh and Ahmadnagar Districts of the Bombay Presidency, and to a lesser extent in Belgaum, Dharwar and other Districts of the Deccan and Carnatic. Salt intended for local consumption in Bombay is removed from the works in carts, while that intended for export to Calcutta and the Malabar Coast is laden on boats, capable of carrying from 1,000 to 2,000 maunds. These consignments are examined at the Mahul preventive station close to the entrance of the Matunga creek, and are thence transhipped in the harbour into steamers or square-rigged vessels under the supervision of the Customs Preventive department.

Besides the industries mentioned above there are many other minor industries established in Bombay, among them being wire-drawing for embroidery and lace work and electro-plating and silver-plating of trays and horse-

trappings. There are expert Chinese cane-workers in Bombay and a few model diaries producing good butter and milk. Flour-grinding is a domestic industry and many women of the poorer classes earn a good livelihood therefrom.

Factories.

Most of the factories in Bombay are of comparatively recent date, and have gradually eclipsed the handicrafts for which the city was at one time famous. In 1908 the total number of factories falling within the scope of the Factory Act of 1881 (amended in 1891) was 166, of which half were cotton mills. Most of these factories work throughout the year and employed in 1908, 107,739 men, 23,767 women and 4,157 children.

The following table shows the total number of factories by classes in Bombay city in 1892, 1896, 1901 and 1908:—

	1892	1896	1901	1908
Cotton Mills	64	68	76	83
Silk Mills	1	2	2	2
Woollen Mills...	2	2	1	3
Hosieries	3	2	2	2
Cotton Presses and Gins	11	9	8	7
Dye Works	2	2	2	4
Flour Mills	3	5	5	5
Oil Mills...	2	2	1	1
Tannery	...	1	1	1
Saw Mills and Timber Works ...	1	2	2	2
Iron Works and Foundries ...	8	8	8	15
Locks and Cutlery Works... ..	...	...	1	1
Metal Works	...	...	...	2
Tin Works	...	...	1	3
Paper Mill	..	...	...	1
Workshops	6	6	7	9
Art Manufacture	1	1	1	1
Gas Works	1	2	2	2
Gun Carriage Factory	1	1	1	...
Arsenal	1	1	1	...
Mint	1	1	1	1
Dockyards	4	4	3	3
Printing Presses	7	9	10	16
Power Generator *	...	...	...	1
Bone Mill	...	...	...	1
Total ..	119	128	138	166

* This is the property of the Bombay Electric Supply and Tramway Company.

The above list excludes factories which are not liable to inspection under the Factory Act as they are worked with less than 50 operatives and many of them are with-

out power-driven machinery. They are :—Sugar factories (8); Rope factory (1); Grain crushing mills (6); Carriage factories (6); Mechanical and Iron works, Iron and Brass foundries and smithies, etc. (68); Soda water factories (22); Ice factories (5); Oil factories (3); Flour mills (8); Woollen and Cotton cleaning factories (6); Saw mills (4); Printing presses (39); Lithographic presses (5); Chemical works (3); Dyeing works (7); Button factories (1); and Miscellaneous (10).

Cotton Mills.

The manufacture of yarn and cloth by machinery is the staple steam-industry of Bombay city. Although to Bengal belongs the honour of opening the first factory for spinning cotton by steam-power in India, it is to the Bombay Presidency that we must turn for the home of the industry and to the island of Bombay for its highest development. The first cotton-mill was erected on the banks of the Hughli in 1818. The first mill in Bombay was projected in 1851 by Mr. C. Nanabhai Davar and commenced work in 1854 as a joint-stock company under the name of the Bombay Spinning and Weaving Company. It was followed by the Oriental Spinning and Weaving Company, which opened its mill in 1858 with a capital of 25 lakhs raised by 4,000 shares of Rs. 625 each, by the Maneckji Petit Manufacturing Company's mill and others; and by 1865 there were altogether ten mills in the city, working with 250,000 spindles and 3,380 looms. They gave employment to 6,600 persons and consumed annually about 42,000 bales of cotton. During the year 1865-66 the industry sustained a temporary check owing principally to the abnormal price of cotton and also to the agents and directors having taken large advances from the local banks at very heavy interest and being unable to dispose of their accumulations of yarn at fair rates when the financial crash occurred. But the trouble lasted for a short time only; and in 1867 one of the directors of the Manchester Chamber of Commerce, speaking of the Bombay mills, pointed out that the long cloths, T cloths and domestics produced by them had been steadily gaining favour with consumers in all districts and were actually preferred to Lancashire goods of the same class owing to the fact

that the Bombay goods lasted longer than the finer and heavily sized cloth produced in England.

Between 1870 and 1875 seventeen new mills had been established, thus making a total of 27, working with 752,634 spindles and 7,781 looms, the capital invested in the industry being 224 lakhs. From that date the growth of the industry in India, and more particularly in Bombay, became very marked, and by 1898 the number of mills in the Presidency and Bombay had increased to 133, having 2,963,944 spindles and 29,446 looms. The outbreak of plague in 1896, coupled with the severe famine of that year, exercised for several years a most depressing effect upon the industry. The first epidemic resulted in a general flight of mill-operatives from the island, open bidding for labour at the street corners, and the shattering of the tie hitherto binding the employer and the employed. No sooner had this trouble been minimised by the growing confidence of the industrial population which felt that the chance of dying of plague in the city, while in receipt of good wages, was preferable to the prospect of starvation in up-country homes, than the agents of the local industry had to face the inevitable consequences of over-production. Between 1892 and 1898 the total number of factories in the island rose from 119 to 136, the increase being almost entirely due to the opening of new cotton-mills ; and this had taken place in spite of the belief that a fall in silver had exercised an adverse influence upon the trade and despite the fact that the China market—the chief outlet for Bombay's production of yarn, was being rapidly glutted. In 1899 the position of the industry was, in the words of Sir George Cotton, "most critical" ; and by the end of that year nearly all the mills closed for three days in the week and some were wholly shut down. Subsequent to 1902, however, the condition of the industry began to assume a more satisfactory aspect ; excellent seasons were experienced in 1905 and 1906 ; and the general progress of cotton spinning and weaving may be gathered from the fact that in 1908 the city contained 85 mills, having 2,734,863 spindles and 35,967 looms, employin daily on the average 101,536

operatives, and consuming 1,200,000 bales of raw cotton. The following table shows the progress of the cotton spinning and weaving industry in the island of Bombay since the year 1865 :—

Years ending 30th June.	Number of Mills.	Number of Spindles.	Number of Looms.	Average No. of Hands employed daily.	Approximate quantity of Cotton consumed.	
					Cwts.	Bales of 392 lbs.
1865...	10	249,984	3,378	6,557	Not recorded.	
1866...	10	274,371	3,254	6,733	Do.	
1867...	10	278,057	3,578	7,630	Do.	
1868...	10	282,644	3,643	7,715	Do.	
1869...	10	285,874	3,719	7,857	Do.	
1870...	10	290,920	4,090	8,103	Do.	
1871...	10	305,896	4,290	8,553	Do.	
1872...	11	314,396	4,302	8,816	Do.	
1873...	14	394,592	4,606	10,714	235,763	67,361
1874...	15	462,151	5,713	11,398	289,065	82,590
1875...	27	752,634	7,781	13,551	Not recorded.	
1876...	29	816,830	8,041	......	Do.	
1877...	31	895,204	8,433	20,347	564,270	161,220
1878...	32	955,344	10,266	26,942	715,078	204,308
1879...	32	981,000	10,856	28,860	632,436	180,696
1880...	32	987,676	10,856	29,417	771,239	220,354
1881...	32	991,522	10,932	31,351	954,772	272,792
1882...	36	1,056,004	11,274	31,801	971,061	277,446
1883...	38	1,126,698	11,667	34,736	1,094,016	312,576
1884...	43	1,251,726	11,985	36,071	1,218,490	348,140
1885...	49	1,347,390	12,011	41,545	1,373,743	392,498
1886...	50	1,388,773	12,068	44,111	1,369,039	391,154
1887...	55	1,446,644	12,163	43,270	1,587,649	453,614
1888...	61	1,457,015	12,752	47,789	1,750,014	500,004
1889...	69	1,591,328	13,380	52,490	1,973,055	563,730
1890...	70	1,895,660	13,785	59,139	2,226,819	636,234
1891...	67	1,909,123	14,347	61,981	2,668,967	762,562
1892...	68	1,934,716	14,900	65,087	2,550,058	728,588
1893...	69	2,041,208	16,664	67,870	2,534,910	724,260
1894...	69	2,027,374	18,265	70,553	2,557,296	730,656
1895...	69	2,123,892	20,217	75,740	2,853,879	815,394
1896...	71	2,186,323	21,335	78,455	2,973,873	849,678
1897...	75	2,187,425	21,287	69,530	2,459,646	702,756
1898...	82	2,226,982	21,379	70,728	2,860,648	817,328
1899...	82	2,410,861	22,209	77,169	3,327,800	950,800
1900...	82	2,536,891	22,215	72,914	2,606,800	744,800
1901...	81	2,571,092	22,414	82,162	2,435,153	695,758
1902...	80	2,523,769	22,845	86,122	3,155,823	987,378
1903...	80	2,533,382	23,125	86,913	3,451,798	986,228
1904...	79	2,534,230	24,136	89,915	3,404,569	972,734
1905...	81	2,560,916	28,073	92,924	3,753,582	1,072,452
1906...	84	2,614,323	28,778	100,798	3,994,424	1,141,264
1907...	85	2,613,483	31,982	98,101	3,905,125	1,115,750
1908...	85	2,734,863	35,967	101,536	......	1,200,000

It will be apparent from the table above that the general progress of the industry has been well sustained.

Bombay mill-owners have many advantages over western producers. The raw material and the market for the manufactured article are at their very doors; and labour till recently was cheap and abundant. On the other hand the cost of erecting mills and machinery is comparatively high, and the quality of the cotton does not admit of its being spun into the finer sorts of yarn.

The yarn produced during the official year ending March 31st, 1909, amounted to about 360 million lbs. The bulk of it was of counts 20s (84 million lbs.), 10s (79 million lbs.), 12s (34 million lbs.) 22s (18 million lbs.), 11s (18 million lbs.), 6s (12 million lbs.) and 21s (9 million lbs.). Both mule and ring spindles are in use, the former numbering in all about 1,000,000 and the latter about 1,740,000. The production of yarn per spindle in Bombay is about 135 lbs. annually. Attempts have recently been made to spin a superior class of yarn.

The subjoined statement shows the production of various counts of yarn during the last five years :—

Count or Number.	Twelve Months, April to March.				
	1904-05.	1905-06.	1906-07.	1907-08.	1908-09.
Nos. 1 to 10.	122,120,630	146,809,118	109,094,403	110,340,402	106,936,649
Nos. 11 to 20.	160,386,789	190,652,423	203,712,891	175,185,782	181,702,253
Nos. 21 to 30.	47,404,118	48,444,603	53,025,097	60,025,425	61,519,967
Nos. 31 to 40.	3,124,010	2,990,468	4,233,242	6,684,925	6,271,421
Above 40 ...	507,809	421,289	577,631	863,422	1,186,941
Waste ...		61,696	16,221	51,824	28,846
Total...	333,543,356	389,379,597	370,659,485	353,151,780	357,646,077

Note.—This table includes the production of two mills in the Thana District.

The yarn produced in Bombay is partly consumed in the local production of cloth and is partly exported to other places in India and to China. The last-named country takes annually about 500,000 bales of 400 lbs. apiece, and the total exports average about 680,000 bales. The hand-loom weavers of the Presidency use a considerable quantity of Bombay spun twist, while during recent years Bombay yarn has begun to find a footing in Eastern European ports. Japan, which at one time consumed a large quantity of Bombay yarn, has now practically given

up importing it. She imports instead raw cotton, averaging 600,00c bales per annum.

The cloth produced by Bombay mills amounts in a year to about 110 million lbs., the varieties principally manufactured being shirtings, longcloth, T-cloth, domestics, sheetings, chadars, dhoties, drills, jeans, and tent cloth. Coloured piece-goods are also woven. Attempts have recently been made to bleach grey cloths. Two mills also have introduced machinery for printed coloured goods. The yarn used is almost invariably spun in the same mill that produces the cloth. Attempts have recently been made to turn out cloth of a finer quality, such as cambrics, lawns and zephyrs. The weaving branch of the Bombay cotton industry may be described as only just emerging from its first stage. It has had to face keen competition with imported Manchester goods. But quite recently the *swadeshi* movement which has taken place in all parts of India has given a distinct impetus to local manufactures, and it seems quite possible that within the next few years there will be an extension of the weaving industry. Bombay cloth, as it is, commands a large sale in all parts of India and finds a ready market in Arabia, Mozambique, Zanzibar, Abyssinia and Turkey in Asia. Nevertheless Manchester goods still manage to hold their own by reason of their cheapness.

The following statement shows the quantity and description of woven goods produced by the Bombay mills, including two mills in Thana, during the last five years :—

Description of Goods.	Twelve Months, April to March.				
	1904-05.	1905-06.	1906-07.	1907-08.	1908-09.
Grey Goods—	lbs.	lbs.	lbs.	lbs.	lbs.
Chadars	10,116,529	10,410,928	11,359,701	11,128,033	9,395,365
Dhoties	6,329,266	6,759,645	8,593,598	14,287,318	11,770,278
Drills and jeans ...	1,373,705	2,251,452	1,960,603	2,668,014	2,792,833
Cambrics and lawns.	128,722	131,513	394,624	336,655	273,114
Printers	443,998	672,391	353,328	195,644	79,459
Shirtings and long-cloths	33,831,436	32,742,305	32,160,643	35,289,915	34,004,115
T-cloths, domestics and sheetings ...	13,936,806	18,481,074	17,764,448	18,362,542	19,355,423
Other kinds... ...	5,261,658	1,489,897	1,543,396	1,966,068	2,027,051
Total ...	71,425,120	72,939,205	74,130,341	84,234,189	79,697,638

Description of Goods.	Twelve Months, April to March.				
	1904-05.	1905-06.	1906-07.	1907-08.	1908-09.
	lbs.	lbs.	lbs.	lbs.	lbs.
igured and coloured goods...	20,529,150	21,507,567	21,416,557	25,616,726	27,172,650
osiery	571,367	652,226	608,063	497,626	*382,475
iscellaneous goods..	393,707	65,300	108,122	74,082	21,817
Total ...	92,919,344	95,164,298	96,263,083	110,422,623	107,274,580

*Besides this quantity about 250,000 dozens of hosiery are produced by e mills annually. The weight of these is not included in the table.

With the exception of a few belonging to private owners, the mills in Bombay are limited liability companies, conducted under the provisions of the Companies' Acts of 1866 and 1882. Their affairs are supervised by Boards of Directors and managed by a secretary or firm of agents. To the firm of agents belongs the important task of purchasing the necessary cotton, coal, stores, etc., and of effecting sales of yarn and cloth. It is further the duty of the agents to see that the most vigilant supervision is exercised by the expert executive over the skilled and unskilled labour within the mill and to keep in constant touch with the quality and quantity of the outturn and every item of expenditure. The remuneration of the agents is usually 3 pies for every pound of the twist manufactured and sold. This may be satisfactory enough for the agents, but when the margin of profit is reduced to a minimum the shareholder in many cases finds that there is little or nothing left for himself. There are of course exceptions to this rule, as for example one firm of agents who have 290,000 spindles or more under their management and who receive by way of commission 10 per cent. on the net profits after setting aside depreciation. Some of the more recently established mills work on a graduated scale of commission, which is fair both to agents and shareholders. The total amount of paid-up capital of the mills in Bombay is 6½ crores, besides loans and debentures which approximate to an equal amount; their financial position is sound, and there is a steady demand for mill shares. The mill-owners belong to the Vani, Bhattia, Muhammadan, Parsi and Jewish communities.

In the mill itself the most important figure is the manager who, if an Englishman, is usually a man with considerable experience of a Lancashire mill and who must, to carry out his work efficiently, be possessed of many technical qualifications, great industry and restless energy. From the mixing-room to the baling-press his eye must be upon every process, and not only must he be able to point out anything that is wrong, but he should have the knowledge to correct and set right the error. The pay of a mill-manager, which varies according to the size of the mill and the qualifications of the individual holding this post, ranges from Rs. 400 to Rs. 1,000 per month with a free house and certain allowances. These posts are being filled to a greater extent than in former years by natives of India. Besides the manager, some companies appoint separate European or native weaving masters and spinning and carding masters: and occasionally these departments are supervised by experienced jobbers, who have grown up in the service, and from long practice have become masters of the department in which they work. These men earn from Rs. 60 to Rs. 150 per mensem. Another important member of the staff is the engineer who takes entire control of the engines, boilers and gearing, but, unless consulted by the manager, does not interfere with the spinning-machinery or work-people outside his own department.

People interested in the cotton-trade in England have from time to time endeavoured to demonstrate that the Indian mill-operative is the victim of oppression; but the report of the recent Factory Commission proves that this is not the case. The operative, if he chooses to work well, can secure comparatively handsome pay. The hours of labour are 12½ or 13, running from early dawn till dark, and often after dark in mills furnished with electric light; but besides the regulation break in the day, the number of hands to be found at all times in the smoking shed tends to show that the men avail themselves constantly of considerable periods of non-regulation leisure. A trip to his native village, lasting for a couple of months or more every year or two, is one of the compensations a mill-hand looks forward to and not infre-

quently enjoys. The hands inside a Bombay mill are far more numerous than will be found within a similar English mill, and in spite of the fact that the atmosphere of most Bombay spinning-rooms is unusually close, the general run of mill-hands are in no worse position as regards light and air than the Lancashire factory hands. With a few exceptions, only men work in departments which contain steam-driven machinery, and they are assisted by boys, aged from 9 years upwards, who are put on to work suited to their capacity and experience. Women and girls are found almost wholly in the reeling-rooms only, though small girls work in the ring spinning-rooms of some mills. All hands are paid by the piece, and the monthly wage thus varies according to the actual work accomplished. Mukadams and jobbers, with the exception of a few on fixed wages, are paid in the same way. During the plague exodus of 1897-98 greatly enhanced wages were paid, and the operatives found themselves able to demand and enforce the pernicious system of daily payments. This system for the time being became almost universal owing to the anxiety of agents and owners to keep as much as possible of their machinery running; and a return to monthly wages was only effected with great difficulty after a strike had taken place. Most mills keep the pay of the operatives a month and occasionally six weeks in arrears, in order to prevent strikes.

The Bombay textile mills give employment to about 98,000 persons, most of whom are Marathas from the Ratnagiri District, with a small sprinkling of Muhammadans. Each department of the mill is generally in charge of a mukadam (headman) or a jobber, who receives a monthly salary varying from Rs. 25 to Rs. 65. The ordinary scale of pay of the other hands is from Rs. 10 to Rs. 30, but most of them are paid by piece. The jobber is expected to provide hands for the machines in his department, and to do this with success he is bound to have a following of men and boys who usually live in the same neighbourhood and often in the same chawl as himself. He spends his evenings with them, acts as their adviser in family matters and not infrequently advances money to them. Strikes

are not of frequent occurrence in mills, and when one does occur it is often at the instigation of the jobber, and combined action is limited to the department of which he is in charge. He seldom appears openly as spokesman on behalf of his men, but assumes a rôle of sympathy for his employers which is designed to favour the interests of his men. To espouse the cause of his followers openly would mean his own undoing, and if he is dismissed his following generally leave the mill in a body and endeavour to induce other departments to join them. On the other hand an unpopular jobber may find his men desert him in such an emergency, as being an easy method of ridding themselves of his influence and of the money they owe to him. This insecurity of position and the part he is called upon to play in his own interests, render the jobber a man of many wiles. A good many jobbers play a leading part in the maintenance of gymnasia (*talim*), of which there are seven or eight in the mill district.[1]

The hours of work for women, children and young persons are regulated by the Indian Factories Act XV of 1881 (as amended by Act XI of 1891), which also enforces the fencing of dangerous machinery. Two Inspectors of Factories and a Joint Medical Inspector are appointed under the Act for the City and Island of Bombay, while the Assistant Collector of Bombay is *ex-officio* Chief Inspector of Factories. The Factory Commissioners expressed the opinion that the provisions of the Act are most efficiently carried out by the mills in Bombay city.

Silk Mills.

Bombay contains (1909) two silk mills. The Sassoon and Alliance Mill, established in 1875,[2] is situated near the Victoria Gardens and is a joint stock concern, working with a capital of Rs. 10 lakhs. It is the largest mill in the Bombay Presidency manufacturing silk yarn and cloth for the Indian and Burma markets. The annual production is about 70,000 lbs. The productive capacity is increasing; but progress is checked by Japanese compe-

[1] For further details of Bombay mill-operatives see chapter on Population.

[2] The mill was formerly known as Sassoon Silk Mill. In 1883 it was amalgamated with the Alliance Silk Mill and since then it has been known as the Sassoon and Alliance Silk Mill.

tition. The handkerchiefs made in the mill were at one time in great favour with the Burmese, but have now yielded place to similar products from Japan. The number of hands employed is 1,000. The Chhoi silk manufacturing mill is situated in the Parel section of Bombay. It is a limited company, established in 1895, and working with a capital of Rs. 5 lakhs. The silk cloth produced in the mill is consumed in India and Burma. Yarn is manufactured from silk waste. In 1908 the mill employed 490 operatives and the annual outturn was 23,000 lbs. of cloth. Of late years Japanese competition and depression in the market have checked its productive capacity.[1]

Both these mills obtain their raw material from China and Bengal, and make considerable use of waste silk, which undergoes a lengthy process before it is fit for use in the loom.[2] The chief fabrics woven are *saris* for Hindu women (figured and unfigured), skirts, and head-gear for Muhammadan women, satin piece-goods for bodices, coats, jackets, etc., handkerchiefs or scarves for the Burmese and dress lengths for the women of the Punjab. Gold thread was formerly used by the Sassoon mill for the borders of *saris*, but the output has of late years declined, their place being taken by *saris* with borders of imitation gold which find more ready sale. Printing in various colours and designs is performed in these mills.

Woollen Mills.

The manufacture of woollen goods in India is not very profitable owing to lack of demand for such fabrics and to European competition. Such cloth as is manufactured is of a coarse and inferior kind. The first woollen mill known as the Bombay Woollen Manufacturing Company was established in 1888 with a nominal capital of 4 lakhs. In the same year the Sohrab Woollen and Cotton Mill was

[1] Production of both the silk mills :—

	1888.	1898.	1903.	1908.
	lbs.	lbs.	lbs.	lbs.
Sassoon Alliance Silk mill	53,000	57,000	60,000	70,000
Chhoi Silk mill	...	32,000	43,000	23,000

[2] See monograph on silk fabrics by S. M. Edwardes, Esq., I.C.S.

established with a capital of 7½ lakhs. The latter contained in 1891 60 looms and 2,160 spindles and produced blankets, white coloured and grey serges, broadcloth, and grey Oxford clothing for army and police. The outturn was nearly 200,000 lbs. In 1898 the mill removed its machinery for spinning and weaving wool and replaced the same by machinery for cotton. Besides these Bombay had in 1890 six other wool cleaning establishments, some of which were adjuncts of cotton cleaning establishments or of flour mills.

Bombay now (1909) possesses one mill—the Bombay Woollen Mill referred to above which produces its own worsted yarn from Australian wool and weaves blankets, serges for army clothing, etc. The Coronation Woollen Mill knits jerseys and caps from imported worsted yarn. The subjoined table shows the production of these mills since 1903:—

	Bombay Woollen Manufacturing Co.	Duxbury Woollen Mill.[1]	Coronation Woollen Mill.
1903	363,233	76,500	51,669
1904	604,431	...	71,027
1905	853,023	71,233	136,330
1906	700,000	30,278	61,234
1907	611,149	18,567	23,975
1908	818,610	...	32,996

Hosieries.

Hosiery is manufactured in five cotton mills, as well as in two separate hosiery factories. The latter employ about 180 hands and manufacture hosiery weighing 154,000 lbs. annually. The former produce annually about 228,000 lbs. The articles manufactured are socks, stockings, pants, drawers, trousers, shirts, vest, caps and hosiery webbing cloth. There has been a considerable decline in production during the last few years in consequence of Japanese and European competition and of the fact that much of the machinery in use is obsolete. The following table

[1] The Duxbury Woollen Mill, established in 1901, went into liquidation in 1908.

shows the quantity of hosiery in thousands of pounds manufactured in Bombay during the last three years :—

	Total.	Shirts.	Caps.	Socks.	Pants.	Others.
1906-07	608	426	101	68	9	4
1907-08	498	324	88	73	11	2
1908-09	392	226	103	51	5	7

Cotton Presses.

As early as 1694 machines for screwing loose bales of cotton into a size suitable for export were introduced.[1] The buildings in which these machines were placed were known as screwing-houses, and the machines themselves consisted in 1809 of a square wooden frame in which the cotton was placed surmounted by a beam of great weight which was fixed to the end of a powerful screw. This screw was worked by a capstan in a chamber above to each bar of which there were often 30 men (in all 240 to each screw). They turned the screw with great swiftness at first shouting the whole time, the shouts ending in something like loud groans as the labour became heavier.[2] Hemp was also packed in the same manner. In 1868 Bombay contained 13 presses situated in vairous localities. The number is decreasing as much of the pressing is now done in the cotton districts to save cost of freight to Bombay. Bombay now (1909) contains 7 presses employing 600 operatives. Of these the Akbar Manufacturing Company's Press contains machinery for cleaning cotton and wool. The Khorshed factory is a cleaning and ginning establishment.

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1 In 1697 there must have been one such machine in Bombay as we find the Governor on the 23rd March in that year writing to the President and Council at Surat :—"One of the nuts of our cotton screw being broken we have in vain endeavoured to get a piece of timber in the country to make a new one. Therefore, do you send us as soon as possible one or two pieces of cominba timber in length 10 ft. 3 in., broad 2 ft. 4 in. and 1 ft. 2 in. thick."

2 Maria Graham's (1813) Journal of a Residence in India.

Dye Works. Dyeing is a staple industry of Bombay, but the works are small [1] and the processes primitive. A few mills, however, possess dye-works in which modern processes are followed. The dye-works coming under the Factory Act and separately shown are four in number. The Bombay Dyeing and Manufacturing Company with their dye-works at Dadar was established in 1879 with a capital of Rs. 12 lakhs. Cotton yarn from local mills is dyed for export to various parts of India and Burma. The E. D. Sassoon Turkey Red Dye-works which were formerly known as the Clydensdale Dye Works have been owned and worked by Messrs. E. D. Sassoon and Company since 1891. A large cloth bleaching plant has recently been added. The works employ daily about 250 labourers, while the yarn annually dyed amounts to about 16,00,000 lbs. The Indian Bleaching, Dyeing and Printing Works of Dadar were established in 1908 with a capital of Rs. 12 lakhs.[2] The Khatau Makanji Dye Works form a department of the mill of the same name, and produce a monthly average of 45,000 lbs. of dyed goods.

Flour Mills. In 1725 Bombay contained a wind mill for the grinding of wheat situated on the Esplanade; but this had disappeared by 1808.[3] At the present date (1909) Bombay contains 4 large flour mills, *viz.*, the Bombay Flour Mill,[4] the Union Mill, a Mill in Mount Road, Mazagon, and the Wallace Flour Mill. The Empress Roller Flour Mill is a smaller establishment.

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[1] According to the License Department (Municipal) statement of 1907-08 it appears that 163 licenses were granted to dyers of cloths in indigo and other colours (hand-power), 13 to dyers (machine), and 17 for Silk-dyeing. In the census of 1906, 8,376 (including 3,900 dependents) were returned as dyers and painters.

[2] For information regarding hand-dyeing see Monograph on Dyes and Dyeing by C. G. H. Fawcett, Esq. I.C.S., (1896, Bombay Government Records).

[3] In 1877 Messrs. Ebrahim Allarakhia and Co. invited a large number of guests to witness the opening ceremony of the Kaiser-i-Hind Steam Flour Mill. "After every one having seen the engine, a rose water bottle and a cocoanut were broken on the engine and the hissing sound made them aware that the steam was passing into the cylinder of the engine and in a very short time the fly wheel was seen revolving." (Times of India, 15th January 1877.)

[4] Bombay Flour Mill consists of three separate factories.

The Union Flour Mill was established as a joint stock concern in 1894 with a capital of Rs. 3 lakhs. It is situated in Parel. Wheat flour annually amounting to 24,000 tons is made and sold locally and in all parts of India. A small portion is sent to Africa and Burma. The wheat used is brought from Northern India. The average number of hands employed is 100. The Wallace Four Mill, originally started in 1888 as a joint stock company, was purchased soon after by a wealthy Bhattia and is not a purely private concern. The mill works night and day by shifts and is furnished with the most modern machinery. Its productive capacity is 20 sacks per hour. The wheat used is brought from Karachi, Delhi, the Central Provinces and Australia. The registered trademark of the mill's products is the "Anchor" which is well-known throughout India and East Africa.

Oil-presses.

Oil-presses of the old type are made of wood and worked by bullocks and many of them can still be seen in Bombay.[1] The first oil mill worked by machinery was situated near the Mori sluices between Mahim and Sion and was capable of turning out 12 to 14 maunds of cocoanut oil per day. It was sold together with the ground on which it stood in 1820.[2] At the present date only one machine oil mill, the Piru Mahomed Mill, is working. It was established in 1887 and is situated in Byculla. It is a joint stock concern with a capital of 3 lakhs. The average annual output of oil is about five hundred thousand gallons, and of oil-cake five thousand tons, the joint value of the oil and cake produced being about 10 lakhs. About one-third of the oil-cake is sold locally and the rest is exported to Europe.

Tanneries.

In 1887 Mr. (now Sir) Adamji Peerbhoy opened a tannery worked by machinery at Sion, which does a thriving business and exports a considerable quantity of tanned leather to Europe and Africa. The chief articles manufactured are saddlery, boots, shoes, belts, trunks, bags and various smaller articles. The factory is worked under European

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[1] This type of press cost about Rs. 200. One press worked the whole day produces 2 maunds of til oil and 4 maunds of cocoa-nut oil. The former yields 40 per cent. of oil and the latter 60 per cent.

[2] Bombay Courier of March 18th, 1820.

supervision and the wages of the native employés vary from Rs. 12 to Rs. 80 per mensem. The factory employs about 1,000 hands. The leather used is chiefly harness leather, bridle leather, hog-skins, calf (black and brown) patent leather, sheep skin, bag hide and gaiter hide. Very little Russia leather is used as the climate is unsuited to it. American leather is imported from London.[1]

Saw-mills and Timber-works.

A writer of 1867[2] remarked that "though a saw mill for cutting timber moved by water power was in use in Europe in the thirteenth century, on the Malabar Coast and in Bombay machinery for cutting logs of timber was not introduced and worked successfully until within the last six years. It was introduced, not by any native but by a European firm fully engaged in the cotton and other piece goods trade." Later on we find a reference to another mill opened as a workshop by Messrs. Nicol & Co. in 1873 to construct trucks, carriages and waggons for the Indore State Railway. Bombay now contains two saw mills and timber works. Of these the Western India Saw Mill situated at Tank Bandar was established about thirty years ago with a capital of Rs. 50,000, the present owners being Messrs. Umehrji Dorabji & Co. Teakwood and jungle woods of various sorts are here sawn. The Byculla Saw Mills were founded in 1881 by Mr. Alexander Mackenzie, and after his death were converted into a limited company by his sons. The mills employ about 450 men daily, and turn out all kinds of wood-work. The quantity of wood annually converted to use is about 6,000 tons.

Foundries and Metal Works.

In Bombay a native foreman employed in the Gun Carriage Factory is reputed to have been the pioneer of the iron-foundry trade and by honest industry to have succeeded beyond his expectations. In 1857 Mr. N. C. Richardson opened the Byculla Iron Works and Metal Mart which is situated on Parel Road with branch works in Nesbit road, Mazagon. He had to face many difficulties in the matter of supply of fuel, suitable appliances and skilled labour

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[1] A detailed account of the Western India Boot and Equipment Factory as it is named is given in Mr. Martin's Monograph on Tanning and Working in Leather. (Bombay Government Records.)

[2] P. R. Cola's How to Develop Productive Industry in India and the East. (1867.)

which were practically non-existent at that date. At the present time Messrs. Richardson & Cruddas, as the firm is styled, own one of the largest engineering works in India, affording employment to 2,000 persons. The firm has two workshops, each containing foundries capable of dealing with the heaviest casting required in trade, pattern-shops, smith-shops, fitting and machine-shops and a large structural steel boiler department. The firm turns out steel and other work for the Indian railways, and roof trusses of various designs and style for Government offices. Business is carried on with all parts of India, Burma, East Africa and the Straits Settlement. Sanitary appliances are also made.

Bombay now (1909) contains 15 foundries and works as shown in the subjoined table.

Name.	Operatives employed.	Name.	Operatives employed.
Byculla Iron Works ...	1,160	A. K. Patel & Co. ...	178
Byculla Iron Works Branch	400	Garbeile & Co.	...
Carnac Iron Works ...	628	P. & O. Company's Iron Works	886
Defence Iron Works ...	1,005	Napier Foundry ...	200
Dock Iron Works ...	100	Marsland, Price & Co. ...	445
Empress Iron and Brass Works...	100	Geo. Gahagan & Co. ...	350
Tarachand Masani &Co.	120	Bombay Foundry and Iron Works	215
D. M. Daruwalla ...	54		

The other metal, lock, cutlery and tin works are :—

Name.	Nature of Work.	Number of hands employed.
Godrej, Boyce & Co...	Blacksmith, cutlery and safe making	240
Art Metal Works ...	Iron gates, railing and brass work	50
Anant Shivaji Desai Works	Aluminium, German silver and other metals are stamped into household utensils	100
Asiatic Petroleum Oil Works	Tin works	353
Burma Oil Works ...	,, ...	290
Standard Oil Works ...	,, ...	177

Paper Mills. The Girgaum Paper Mill, which is the only paper mill in Bombay, was established in 1862,[1] and is the oldest paper mill of India. It is at present owned by a Musalman who purchased it in 1908. The annual production was about 500,000 lbs. until the close of the last century, when the business suffered from depression consequent upon irregular working and the increasing competition of Bengal and Poona paper which find greater favour with the public. The mill manufactures various classes of paper, such as blue and brown casing, white *chopda*, *badami*, printing and blotting paper and affords employment to about 50 hands. No hand-made papers or wood papers are manufactured. The production in 1908 was about 250 tons.

Workshops. Bombay contains (1909) 9 workshops as shown in the subjoined table.

Name.	Numbers of hands employed.
G. I. P. Railway (Parel)	7410
,, (Byculla)	416
B. B. & C. I. Railway...	4062
Bombay Municipal	250
,, Port Trust	803
,, Steam Navigation Company	124
,, Electric Supply and Tramway Company	275
,, Electric Company	118
Vulcan Works	75

Both the Great Indian Peninsula Railway Company and the Bombay, Baroda and Central India Railway Company possess workshops on the island of Bombay. The original locomotive works of the Great Indian Peninsula Railway were opened at Byculla about 1854, and gave employment to between 800 and 1000 operatives. In course of time the expansion of the line forced the company to look for a larger area and in 1878 a move was made from Byculla to the present workshops at Parel. The latter are now found too limited to cope with all the work required and arrangements are (1909)

[1] Bombay began to stir itself in establishing a paper mill in 1854 and a Company was brought into existence in 1854. (*Times of India*, 22nd September 1865).

being made to remove the carriage and wagon shops to Matunga. About 7500 persons are employed in the Great Indian Peninsula Railway Company's workshops, under the supervision of two works managers and 28 European foremen. It takes an apprentice about five years to qualify for advancement to a full mechanic. European and Eurasian apprentices commence work on Rs. 10 per mensem and can rise during the five years to salaries ranging from Rs. 30 to Rs. 65 per mensem. Native apprentices commence on Rs. 5 per mensem and rise to Rs. 16 during the same period. On attaining the grade of full mechanics Europeans and Eurasians rise from Rs. 45 to Rs. 130 per mensem and Natives from Rs. 19 to Rs. 65 per mensem. Chargemen and *mistris* draw higher wages than mechanics. All sects are represented in the workshops, from Bene-israel carpenters to Muhammadan boiler-makers, Parsi fitters and Hindu iron-moulders. The bulk of the work consists of the repair and rebuilding of engines, the construction and repair of carriages and wagons and the manufacture of such articles as signal posts and gear for other departments.

During the first few years of its existence the Bombay, Baroda and Central India Railway Company obtained all its rolling stock from home and fitted it up at Amroli. But in 1868 the Workshops at Parel were opened, Amroli was abandoned, and the locomotive and carriage departments were transferred to Bombay. Up to 1880 the workshops employed from 1500 to 2000 men, which number has gradually increased to 4000. The shops are chiefly engaged in repairing the company's rolling stock and in building carriages and wagons of every description. Locomotives are imported from England and fitted up in the shops. The works are in charge of a Locomotive and Carriage Superintendent aided by an Assistant Locomotive Superintendent and an Assistant Carriage and Wagon Superintendent. Under them are several foremen and assistant foremen. As a rule only skilled workmen are employed, but a limited number of youths between the ages of 14 and 17 are engaged as apprentices for five years and on the expiry of that period are given permanent employment in the particular branch to which they

have been trained. The wages of blacksmiths, carpenters, fitters, etc., range from 8 annas to Rs. 2/4 per diem. The Hindu operatives are usually found to be the best smiths and carpenters, while Parsis, Muhammadans and Goanese are chiefly employed in fitting, turning and erecting.

Under the head of workshops mention must also be made of the furniture factories of Bombay which have long been celebrated. The small native factories turn out a considerable quantity of well-carved black-wood furniture; but this style has of late years yielded place in great measure to the western and less ornate type. The only factory falling under the Factory Act is that of Messrs. Wimbridge & Co., who introduced a style which depends rather upon good proportion and fine joinery than upon elaborate ornamentation. This factory, which formerly overlooked Gowalia tank, now stands near Grant Road station and employs 132 workmen.

Gas works.

The Bombay Gas Company, whose head office is in Hornby road, commenced the erection of its works at Parel and the laying of mains in 1863.[1] The works at first comprised ten settings of cast-iron retorts which yielded place subsequently to the present fireclay retorts; and whereas at first one bed of 7 retorts sufficed for all needs, at present 8 beds of 7 retorts are in constant use. The purification was originally carried out in four cast-iron boxes, only two of which were required for use, but is now effected in three much larger boxes, the purifying material being oxide of iron which is prepared on the works. The exhausters are highly finished rotary machines, the latest of which was fixed in 1906. The coal at first used was Australian and English silt-stone, and great trouble was experienced from spontaneous combustion. During the Transvaal War Indian coal was exclusively used but proved very defective until a recent date, when a new seam of different quality was opened. The bulk of the coal at present (1909) in use is Australian

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[1] Gas light was introduced in Bombay in 1866. It then excited much popular attention. Framji Cowasji lighted his mansion with gas and (to celebrate the event) gave a dinner to his friends: some of them were overcome by the noxious smell, as no arrangement then existed for purifying the gas.

and Indian, with an occasional English consignment. Originally the works contained two gas-holders with a capacity of 150,000 cubic feet apiece, and both telescopic with two lifts. In 1892 a new holder was erected with a capacity of 240,000 cubic feet.

In 1868 the number of public lamps was about 700, each lamp having a separate meter; but two years later the meters were abandoned and a fixed charge per lamp was imposed. The public lamps number more than 4000, having in 1894 been furnished with incandescent burners instead of the former flat flame burners. The main pipe from the works is 24 inches in diameter, and narrows down to 4 inches at Colaba. The original gas-pipes were of lead; but their liability to crushing by the weight of the increasing traffic has obliged the Company to substitute wrought iron piping. The mains are of cast-iron with lead joints. The Company does a considerable business in the erection of gas illuminations for the Divali and other large native festivals.

Mention may be made here of the Sirdar's Carbonic Acid Inventions Syndicate Company which manufactures carbonic acid gas for use in soda water factories.

APPEN

Important Bridges within

No.	Name of Bridge.	Named after.	Nature of Construction.	Purpose for which constructed.	Length.	
1	Frere Bridge ...	Sir Bartle Frere	Iron and Masonry.	Carries Grant Road over B. B. & C. I. Railway.	East 584'-10"	West 476'-3"
2	Kennedy Bridge ...	Sir M. Kennedy	Do.	Carries Girgaum Back Road over B B. & C.I. Ry.	North 439'-5"	South 405'-1"
3	Bellasis Bridge ...	Maj.-Genl. Bellasis.	Do.	Carries Bellasis Road over B. B. & C. I. Railway.	East 654'-3'	West 614'-9"
4	Wodehouse Bridge.	Sir Philip Wodehouse.	Do.	Carries Wodehouse Road over B.B. and C. I. Ra lway.	East 695'	South 767
5	Carnac Bridge ...	Sir J. R. Carnac	Do.	Carries Carnac Road over G. I. P. Railway.	East 542'	West 351'

DIX I

the City of Bombay.

Width of road way.	No. of Spans	Width of Spans.	Gradient. East.	Gradient. West.	Footpath.	Tramway.	Ward.	Inscription.
45	9	12'-6"×13'-9" 11'-9"×17'-8" 28' 8"×17' 8" 13' 9"×13'-9'×12'-6"	1 in 32	1 in 28	*Nil.*	No Tram line.	D.	**Bombay, Baroda and Central India Railway.** His Excellency the Hon'ble Sir Henry Bartle Edward Frere, K.C.B., Governor of Bombay. ERECTED A. D. 1866. (The same inscription in Marathi and Gujarathi.)
29'-6"	3	10'×28'-1"×9'-8"	South 1 in 37	N.-W. 1 in 29	*Nil.*	Do.	D.	**Bombay, Baroda and Central India Railway.** ERECTED A.D. 1866. (The same inscription in Marathi and Gujarathi.
33'-0"	1	28'	1 in 34	1 in 33	*Nil.*	Do.	D. & E.	The Bellasis Road was made A. D. 1795 by the Poor, driven from the city of Surat in that year, of famine, out of funds raised by public subscription and takes its name from Major General Bellasis under whose orders it was constructed.
50'-0"	3	20'×38'-6"×20'	N.-E. 1 in 38	S.-W. 1 in 41	7'-0" on either side of the road	Do.	A.	**Bombay, Baroda and Central India Railway, Wodehouse Bridge.** ERECTED 1875. His Excellency the Right Honourable Sir Philip Wodehouse G.C.S.I., K.C.B., Governor of Bombay. (with corresponding translation in Marathi).
60'-0'	1	52'	1 in 31	1 in 50	7'-0" on both sides.	Double Tram line.	A.	Carnac Bridge 1868. For Public Traffic

Important Bridges within the

No.	Name of Bridge.	Named after	Nature of Construction.	Purpose for which constructed.	Length.	
6	Elphinstone Bridge	Mr. Mountstuart Elphinstone.	Iron and Masonry.	Carries Chinch Bunder Road over G. I. P. Railway.	East 612'	West 63'-6"
7	Byculla Bridge ...	From being situated near the Byculla Ry. Station.	Do.	Carries Parel Road over G. I. P. Railway.	North 693'	South 600'
8	Ollivant Bridge ...	Sir Charles Ollivant.	Do.	Carries Nesbit Lane over G. I. P. Railway.	East 620'	West 565'
9	French Bridge* ...	....	Do.	Carries French Road over B. B. & C. I. Railway.	East 321'-8"	West 390'
10	Masjid Bridge ...	From being situated near a Masjid.	Masonry.	Carries Dongri Street over G. I. P. Railway.	East 457	West 192'
11	Hancock Bridge ...	Col. Hancock.	Iron and Masonry.	Carries Mazagaon Road over G. I. P. Railway.	North 241'	South 298'
12	Falkland Bridge ...	Lord Falkland.	Do.	Carries Falkland Road over B. B. & C. I. Railway.	East 582'	West 753'
13	Gibbs Road Bridge	The Hon. Mr. Gibbs.	Masonry.	Carries Gibbs Road over two passages one for conveyance of the Parsi dead and the other for water main.	182'	..

* A new bridge has recently been built near the Frenc

DIX I.—*contd.*

City of Bombay—(contd.)

Width of road way.	No. of Spans.	Width of Spans.	Gradient.		Footpath.	Tramway.	Ward.	Inscription.
			East.	West.				
50′-0″	3	52′-5″×16′-6″×12′-3″	1 in 30	....	10 on both sides.	No Tram line.	B.	1868
60′-0″	1	59′	1 in 40	1 in 40	7′ on both sides.	Double Tram line.	E.	**G.I.P. Ry., Byculla Bridge, 1885.** Contractors Messrs. Narsoo Syboo and Co.
40′-0″	1	51	1 in 35	1 in 35	*Nil.*	No Tram line.	E.	**Ollivant Bridge, 1887. Cost Rs. 2,15,000.** Constructed by G. I. P. Railway at the cost of the Municipality.
30′-2″	3	9′×28′-1″×9′	1 in 28	1 in 27	*Nil.*	Do.	D.	**Bombay, Baroda and Central India Railway.** ERECTED A. D. 1886. (The same inscription in Marathi and Gujrathi.)
60′-0″	3	52′-5″×25′×8′	1 in 30	1 in 30	12′ on both sides.	Do.	B.	....
50′-0″	2	52′×52′	N. Side 1 in 29	S. Side 1 in 28	*Nil.*	Double Tram line.	B.	....
35′-0	1	56′-6″	1 in 26	1 in 33	5′ on both sides.	No Tram line.	D. & E.	....
30′-3″	...	....	..	...	4′-2″ on one side.	Do.	D.	....

Bridge in connection with the Sandhurst road scheme.

APPENDIX II.

Average annual number of ships which entered and cleared from the Port of Bombay.

	Entered.						Cleared.					
	Foreign.		Coasting.		Total.		Foreign.		Coasting.		Total.	
	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.
1801 to 1810	58	29,640	66	27,435	124	57,075	72	36,205	60	23,684	132	59,889
1810 to 1820	81	37,890	38	13,593	119	51,483	67	33,672	51	18,201	118	51,873
1820 to 1830	116	51,137	27	10,721	143	61,858	97	44,875	45	16,284	142	61,159
1830 to 1841	165	74,620	37	13,400	202	88,020	157	70,679	56	19,824	213	90,503

APPENDIX II—*continued.*

	Foreign.				Coasting.				Total.			
	Steamers.		Sailing Vessels.		Steamers.		Native Craft.		Steamers.		Sailing.	
	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.
Entered.												
1845-46 to 1850-51	...	...	386	1,65,071	...	...	21,323	4,44,648	...	...	21,709	6,09,557
1851-52 to 1860-61	36	33,461	716	2,88,415	5	1,601	14,986	3,54,405	41	35,062	15,702	6,42,820
1861-62 to 1870-71	106	97,406	862	4,28,222	91	29,337	5,715	2,90,889	197	1,26,743	6,577	7,19,111
1871-72 to 1880-81	301	3,50,478	601	2,83,484	315	1,54,314	40,124	8,08,685	616	5,04,792	40,725	10,92,169
1881-82 to 1890-91	614	9,64,836	443	1,40,744	887	4,25,311	52,809	8,91,633	1,501	13,90,147	53,252	10,32,377
1891-92 to 1900-01	631	12,12,641	304	45,175	1,219	8,22,794	44,585	7,18,067	1,850	20,35,435	44,889	7,63,242
1901-02 to 1906-07	641	15,06,846	242	27,233	1,701	13,81,263	47,079	7,23,044	2,342	28,88,109	47,321	7,50,277
Cleared.												
1845-46 to 1850-51	...	...	389	1,61,250	...	...	20,759	4,72,129	...	...	21,148	6,33,379
1851-52 to 1860-61	33	22,316	645	2,72,605	5	1,712	14,373	3,47,215	38	24,028	15,018	6,19,820
1861-62 to 1870-71	101	91,544	714	3,73,260	98	32,093	4,245	3,12,135	199	1,23,637	4,989	6,85,395
1871-72 to 1880-81	291	3,40,713	465	1,77,685	330	1,63,803	36,452	8,54,548	621	5,04,516	36,917	10,32,233
1881-82 to 1890-91	582	9,22,562	390	79,346	917	4,56,935	40,231	8,31,092	1,499	13,79,497	40,621	9,10,438
1891-92 to 1900-01	520	10,15,184	295	36,674	1,327	10,05,216	35,883	6,71,627	1,847	20,20,400	36,178	7,08,301
1901-02 to 1906-07	517	12,53,190	227	24,714	1,818	15,96,492	32,684	6,25,187	2,335	28,49,582	32,911	6,49,901

APPENDIX III.

A Statement showing the number of steamers of the several Steamship Companies which annually arrive at and depart from the Port of Bombay with details of arrivals and departures as taken from the registers of the Customs Department for 1907-1908.

Name of the Company.	Arrivals.	Departures.	Details of Arrivals and Departures.
FOREIGN.			
The Peninsular and Oriental Steam Navigation Co. ...	78	86	Out of the 78 steamers which arrived at this port, 25 arrived from Aden, 24 from China, 22 from the United Kingdom, 4 from Japan, 1 from the Phillipines, 1 from British Indian ports and 1 from Australia. Out of the 86 vessels which departed from this port, 55 were for the United Kingdom, 30 for China and Australia and 1 to Calcutta, Rangoon and Coast.
Messageries Maritimes Co.	25	28	Out of the 25 steamers of this Company which arrived at Bombay, 12 were from New Caledonia and 13 from France. Out of the 28 steamers which departed from this port 10 left for China and Australia and 18 for Marseilles and France.
Austrian Lloyd's S. N. Co. ...	41	48	Out of the 41 steamers which arrived at this port, 31 were from Austria, 6 from Japan and 4 from China. Out of the 48 steamers which left Bombay, there were 14 steamers for China and Australia, 2 for Rangoon, Calcutta and Coast and 32 for Austria and Hungary.
R. Rubattino S. N. Co. ...	25	24	Out of the 25 steamers which arrived at Bombay, 12 were from China and 13 from Italy. Of the 24 vessels which departed from this port, there were 12 for China and Australia and 12 for Italy and Genoa.
Venice Steam Navigation Co.	14	3	Out of the 14 steamers which arrived at this port, 13 arrived from Italy and 1 from British Indian ports. The 3 steamers departed from Bombay for Calcutta, Rangoon and Coast.
Asiatic Steam Navigation Co.	42	68	Out of the 42 steamers, 32 arrived from the British Indian ports, 7 from Java, 1 from Burma, 1 from Cape Colony and 1 from Australia. Out of the 68 steamers which departed from this port, 15 left for United Kingdom, 1 for China and Australia, 29 for Calcutta, Rangoon and Coast, 13 for Marseilles and France, 4 for Germany and 6 for Persian Gulf and Karachi.

Hansa Line of Steamers ...	44	34	Out of the 44 steamers which arrived at this port, 29 were from Germany, 1 from Ceylon, 3 from Belgium, 3 from British Indian ports, 7 from the United States and 1 from Portuguese East Africa. Out of the 34 steamers that departed from Bombay there were 6 for Calcutta, Rangoon and Coast, 22 for Germany and 6 for Persian Gulf and Karachi.
German East Africa Line ...	26	29	Out of the 26 steamers that arrived at the port of Bombay, there were 18 from Zanzibar, 7 from Natal and 1 from Portuguese East Africa. The 29 steamers, which departed from this port, were for East African ports.
Japan Mail Steamship Co....	31	24	The 31 steamers arrived from Japan. The 24 steamers left for China and Australia.
Standard Oil Co. ...	5	8	Out of the 5 steamers, 3 arrived from Roumania and 2 from the United States of America. Out of the 8 steamers which departed from this port, 1 was for the United Kingdom, 3 were for China and Australia 2 for Karachi and Persian Gulf and 2 for Kustonji.
Coasting.			
The British India S. N. Co.	291	310	Out of the 291 steamers, 98 arrived from British Indian ports, 1 from Portuguese Indian ports, 48 from Burma, 81 from Persian Gulf, 19 from Asiatic Turkey, 6 from Mauritius, 6 from Java, 21 from United Kingdom, 1 from German East Africa, 3 from Portuguese East Africa, 5 from Zanzibar and 2 from Australia. Out of the 310 vessels which departed from Bombay, 1 was for the United Kingdom, 1 for China and Australia, 115 for Calcutta, Rangoon and Coast, 14 for Belgium, 7 for Jeddah, 12 for East African ports, 2 for Italy and Genoa and 118 for Karachi and Persian Gulf.
Bombay Co., Ld. ...	16	3	The 16 steamers arrived at Bombay from British Indian ports. The 3 steamers departed for Calcutta, Rangoon and the Coast.
Shah Steam N. Co. ...	19	23	Out of the 19 steamers, 9 came from British Indian ports, 2 from Ceylon, 6 from Asiatic Turkey, 1 from Aden and 1 from the United Kingdom. Out of the 23 steamers which departed from this port, 7 left for Calcutta, Rangoon and Coast, 14 for Jeddah and 2 for Mauritius.
Bombay and Persia S. N. Co.	65	65	Out of the 65 steamers, 14 arrived from Asiatic Turkey, 6 from Aden, 12 from Mauritius, 1 from Java and 2 from British Indian ports. Out of the 65 steamers which departed from Bombay, 11 left for Calcutta, Rangoon and Coast, 36 for Jeddah, 13 for Karachi and Persian Gulf and 5 for Mauritius.
Bombay S. N. Co. ...	430	431	To various ports of the Presidency. In busy season the Company's steamers ply to Mangalore and Madras.

APPEN

Total Value of Exports of Indian

Names of Articles.	1801-02.	1810-11.
I.—ANIMALS	**2,000**	**15,950**
II.—ARTICLES OF FOOD AND DRINK	**12,41,079**	**8,24,151**
Grain and Pulse { Wheat / Rice }	81,346	35,960
Spices	2,47,478	1,73,728
Sugar	2,73,289	1,88,928
Tea...	14,990	10,021
Provisions	1,69,136	2,39,228
III.—METALS AND MANUFACTURES OF—	**2,70,365**	**3,46,769**
Manganese Ore...	......	......
IV.—CHEMICALS, DRUGS AND DYEING	**3,04,811**	**3,81,887**
Opium	35,281	......
Dyeing and Tanning Materials.	19,652	81,452
Tobacco	5,317	......
V.—OILS	**2,418**	**6,525**
VI.—RAW MATERIALS AND UNMANUFACTURED ARTICLES ...	**44,29,576**	**52,62,077**
Cotton	39,26,184	49,57,202
Hemp	2,202	58,672
Seeds	7,768	4,000
Silk...	3,045	35,430
Wool	......	5,280
Hides and Skins...	......	1,256
Fodder, Bran, &c.	......	......
Gums and Resins	52,009	2,283
Horns	3,559	......
Manures—		
Animal Bones...	......	......
VII.—ARTICLES MANUFACTURED AND PARTLY MANUFACTURED.	**18,12,120**	**10,96,452**
Apparel	37,708	38,082
Cotton Twist and Yarn ...	84,484	11,758
Do. Piece-goods	14,90,715	5,62,294
Woollen Materials	17,725	45,600
Skins, Dressed and Tanned ...	......	......
Hides, Dressed	......	......
VIII.—GOVERNMENT STORES ...	......	......
IX.—SUNDRIES AND OTHER GOODS	**8,578**	**1,310**
Grand Total...	**80,70,947**	**79,35,121**

DIX IV.

Produce and Manufactures from Bombay.

1820-21.	1830-31.	1840-41.	1850-51.
31,000	**26,300**	**9,500**	......
18,66,023	**27,69,167**	**36,69,726**	**10,52,973**
3,48,111	4,00,164	2,82,416	3,90,729
4,28,265	5,87,838	4,59,581	5,01,126
3,98,319	8,22,457	11,09,725	10,841
24,873	19,771	3,06,327	......
4,57,710	3,95,929	4,39,972	80,602
1,58,716	**2,76,160**	**5,03,175**	**48,297**
......	......	......	......
35,01,596	**65,93,237**	**1,24,71,934**	**2,31,84,447**
32,15,317	62,96,665	1,14,35,274	2,30,40,600
88,670	1,59,597	5,70,639	73,358
55,570	40,227	57,255	6,060
21,026	**19,322**	**23,357**	**46,597**
64,24,828	**1,10,05,121**	**2,14,71,311**	**3,06,66,499**
51,88,267	89,70,814	1,89,84,230	2,94,30,214
4,080	22,350	24,584	......
10,379	13,103	......	2,96,967
2,37,020	2,60,220	2,87,908	65,420
4,268	......	6,59,534	6,82,834
300	1,150	......	53,721
......	......	......	......
61,051	45,936	2,43,027	12,394
......	13,465	47,195	72,483
......	......	...	......
32,32,169	**43,97,466**	**51,21,008**	**21,25,905**
1,02,116	21,887	84,230	29,700
17,303	9,840	2,40,772	2,089
22,34,947	35,06,0[illegible]2	30,22,394	2,85,342
2,43,187	7,38,554	9,17,598	15,47,411
......	......	......	......
......	......	......	......
......	......	**2,592**	......
2,90,596	......	**2,30,930**	**9,151**
1,55,25,954	**2,50,86,803**	**4,35,03,533**	**5,71,33,869**

APPEN

Total Value of Exports of Indian

Names of Articles.	1860-61.	1870-71.
I.—ANIMALS	......	1,011
II.—ARTICLES OF FOOD AND DRINK	**10,29,511**	**34,39,934**
Grain and Pulse { Wheat / Rice }	9,27,211	20,63,522
Spices	2,932	5,12,368
Sugar	4,979	1,51,763
Tea...	......	640
Provisions	82,875	2,10,886
III.—METAL AND MANUFACTURE OF—	**47,146**	**85,254**
Manganese Ore...	......	......
IV.—CHEMICALS, DRUGS AND DYEING...	**6,70,00,277**	**6,06,33,091**
Opium	6,60,95,991	5,97,12,603
Dyeing and Tanning Materials.	1,37,331	4,25,962
Tobacco	1,07,838	4,04,037
V.—OILS	**3,00,337**	**1,82,472**
VI.—RAW MATERIALS AND UNMANUFACTURED ARTICLES ...	**8,22,08,547**	**16,41,65,029**
Cotton	6,96,45,029	15,62,10,658
Hemp	27,941	3,87,691
Seeds	75,83,849	8,69,454
Silk...	......	2,33,620
Wool	46,64,775	58,04,236
Hides and Skins	1,18,748	......
Fodder, Bran, &c.	......	......
Gums and Resins	......	8,798
Horns	1,11,649	1,73,415
Manures—		
Animal Bones	......	......
VII.—ARTICLES MANUFACTURED AND PARTLY MANUFACTURED.	**41,78,977**	**39,81,961**
Apparel	57,866	1,42,402
Cotton Twist and Yarn ...	10,138	6,20,570
Do. Piece-goods	3,76,751	6,16,532
Woollen Materials	31,36,404	5,92,920
Skins, Dressed and Tanned ...	......	2,32,854
Hides, Dressed	1,36,764	7,28,088
VIII.—GOVERNMENT STORES ...	......	**24,048**
IX.—SUNDRIES AND OTHER GOODS	**13,272**	......
Grand Total...	**15,47,78,067**	**23,25,12,800**

DIX IV—*continued.*

Produce and Manufactures from Bombay—continued.

1880-81.	1890-91.	1900-01.	1906-07.
300	**1,08,498**	**6,425**	**24,070**
2,73,54,061	**4,08,08,710**	**1,25,01,837**	**1,94,17,979**
2,27,83,939	3,39,79,776	68,98,681	1,46,51,412
12,87,084	9,31,456	14,96,034	12,75,649
1,22,870	3,00,142	2,94,303	3,25,795
60,570	6,75,628	13,03,472	8,14,714
9,59,193	37,42,000	19,73,025	15,50,666
2,10.757	**3,73,447**	**28,02,343**	**71,33,301**
......	......	8,97,000	56,26,732
6,12,28,586	**3,74,43,625**	**3,80,76,788**	**2,39,07,895**
5,90,31,135	3,28,18,880	3,33,30,002	1,90.47,814
13,87,534	35,35,903	40,79,827	37,89,555
6,70,125	7,60,943	4,34,418	7,09,847
7,04,837	**3,34,253**	**7,35,493**	**6,37,470**
13,18,96,910	**18,67,61,032**	**12,93,87,529**	**25,27,01,490**
9,77,71,855	12,90,47,073	6,90,36,726	15,64,69,074
2,89,635	2,76,822	20,68,922	28,74,499
2,12,60,806	4,59,81,014	4,09,90,484	7,14,94,856
54,574	22,570	16,526	11,23,488
93,36,046	70,84,188	42,55,944	1,11,83,209
7,70,044	1,17,438	66,25,888	32,92,680
......	......	3,41,191	14,87,820
12,889	8,47,573	6,96,662	6,83,747
10,84,947	11,06,055	10,45,129	8,12,974
1,38,619	8,23,584	32,92,978	20,05,245
2,25,53,499	**7,80,04,827**	**6,37,18,500**	**12,38,06,148**
3,20,857	4,25,732	11,16,395	55,87,482
1,26,00,948	6,14,13,907	4,01,22,176	9,99,06,586
35,60,942	66,38,102	53,99,622	86,01,169
15,34,254	4,40,717	13,46,211	7,33,963
21,13,293	44,93,877	77,76,141	51,27,332
6,01,854	6,72,805	22,14,412	19,83,375
12,776	**1,37,662**	**5,26,350**	**4,58,284**
......	......	......	......
24,39,61,726	**34,39.73,054**	**24,77,55,265**	**42,80,86,637**

APPENDIX V.

Total Value of Articles Imported from Foreign Countries into Bombay.

Names of Articles.	1801-02.	1810-11.	1820-21.	1830-31.	1840-41.	1850-51.
I.—ANIMALS, LIVING	**1,34,350**	**2,49,650**	**3,34,917**	**5,76,700**	**5,25,500**	**4,18,000**
Horses	1,34,350	2,49,650	3,34,917	5,76,700	5,25,500	4,18,000
II.—ARTICLES OF FOOD & DRINK ..	**26,90,693**	**25,26,967**	**31,66,030**	**53,92,880**	**54,83,775**	**87,19,455**
Liquors	10,47,441	4,41,840	5,51,236	5,91,846	11,72,452	19,09,249
Dates	1,58,457	2,39,029	2,54,118	3,78,649	3,97,646	4,44,815
Cloves	89,501	11,399	......	73,308	67,833	2,48,637
Sugar	8,34,568	9,95,339	16,01,522	31,25,369	21,70,730	44,83,789
Tea	43,766	2,45,481	1,21,181	2,10,150	3,84,879	3,78,660
Provisions (except Dates)	2,33,714	3,35,737	2,99,539	3,69,962	5,28,340	4,71,323
Spices (except Cloves)	1,80,115	1,14,605	1,42,945	72,895	1,46,634	1,09,867
III.—METALS & MANUFACTURES OF	**14,45,749**	**11,33,765**	**7,28,239**	**25,67,761**	**33,69,442**	**83,22,014**
Hardware and Cutlery	1,66,503	2,81,911	1,09,[illegible]09	2,42,075	3,47,384	5,57,353
Copper	4,94,085	1,61,824	2,53,822	10,53,744	12,39,146	42,63,253
Iron	3,74,063	1,56,345	1,24,552	6,80,690	10,24,906	23,72,931
Steel	1,51,340	36,346	9,703	1,25,973	80,378	1,12,2[illegible]9
Machinery	......	......	......	3,125	......	50,044
Other Metals (other than Copper, Iron and Steel)	2,59,758	4,97,339	2,30,853	4,62,154	6,77,628	9,66,144
Railway Plant	......	......	......	......	......	......
IV.—CHEMICALS, DRUGS AND DYEING	**9,96,928**	**9,63,410**	**4,29,399**	**13,56,401**	**14,58,934**	**11,66,869**
Chemicals	26,751	1,15,536	53,415	53,920	240	......
Tobacco	6,262	16,541	6,436	1,11,945	9,720	90,049
Dyeing and Tanning Materials ...	7,10,013	4,79,198	1,88,618	4,90,624	7,17,167	6,86,054
Camphor	1,10,380	1,07,477	40,1[illegible]8	1,11,374	......	85,[illegible]74
V.—OILS	......	**5,595**	**5,357**	**9,167**	**17,427**	**11,483**
Mineral	......	......	......	......	......	3,085
VI.—RAW MATERIALS AND UNMANUFACTURED ARTICLES	**2,7**[illegible]	[illegible]**76**	**23,87,433**	**40,21,439**	**49,08,880**	**55,85,074**
Coal	[illegible]	[illegible]	[illegible]	[illegible]	6,42,435	......

Cotton	......	[illegible]	3,107	4,76.023	2,526	2,873
Ivory	31,9[illegible]	[illegible]9	2,92.532	2,71.517	3,21,257	8,39,993
Precious Stones and Unset Pearls.	......	1,19,598	2,70.353	3 05 469	39 565	14 38,799
Silk	67,647	3,16,370	15 00,846	25,84 345	32,28,071	24 00,4[illegible]6
Wood	675	24,207	1,1[illegible]7	20.4[illegible]0	46,706	82,512
Gums	1,11,093	94,592	2,20,224	2,26,142	1,82,474	4,14,903
VII.—ARTICLES, MANUFACTURED ...	**16,69,805**	**19,58,030**	**32,21,354**	**96,61,147**	**1,38,40.420**	**2,11,79,835**
Twist and Yarn, Cotton	......	773	17,728	......	2,075	23,06,221
Piece-goods, do.	6,291	3,04,983	3,04,579	70.92.622	1,03,45,976	1.31,44,177
Do. Silk	3,44,552	2,88,451	2,98,671	......	2,82,503	8,32,751
Do. Wool	......	1,884	18,97,540	6,55,129	6,3[illegible],067	6.58 096
Apparel	3,70,022	2,69,496	1,68,230	2,18,987	5,87,463	7,21,343
Books and Stationery	73,591	1,13,144	1,32,906	2,19.597	2,95,968	9,87,079
Carriages, Carts and parts ...	71,745	......	9,640	48,595	......	51,323
Glass and Glassware	1,14,557	2,30,889	2,95.621	4.33,372	2,15,684	2,80,969
Scientific and other Instruments ...	22,436	......	19,678	21.936	......	86,454
Matches	......	......	......	......	......	......
Paints and Colours	60,902	78,750	75,730	1,15,770	1,07,000	2,77.716
Paper and Paste Board	8,277	......	......	......	......	30,864
Soap	......	......	......	11,181	......	16,541
Toys and Requisites for Games ...	......	3,569	1,031	......	79,399	12,448
Cotton (other than Piece-goods) ...	......	......	......	...	......	84,399
Silk (other than Piece-goods) ...	......	......	......	......	......	4,639
Wool (other than Piece-goods) ...	112	......	......	......	......	1,08.170
Earthenware	6,546	10,631	7,313	78,506	43,457	1,50.760
Leather	......	4,264	71,425	60,436	84,211	96,628
Articles Imported by Post	......	......	......	......	......	......
VIII.—GOVERNMENT STORES ...	......	......	......	......	**1,01,802**	......
IX.—SUNDRIES & OTHER GOODS ...	**16,752**	**8,630**	**6,85,730**	**21,797**	**8,46,342**	**54,913**
Grand Total ...	**72,31,977**	**75,29,123**	**1,09,58,459**	**2,35,85,495**	**3,05,62,522**	**4,54,57,643**

APPENDIX V—*continued.*

Total Value of Articles Imported from Foreign Countries into Bombay—continued.

Names of Articles.	1860-61.	1870-71.	1880-81.	1890-91.	1900-01.	1906-07.
I.—ANIMALS, LIVING	**5,91,000**	**57,250**	**4,52,850**	**14,15,505**	**17,84,786**	**21,13,374**
Horses	5,91,000	57,000	4,27,800	14,04,600	17,52,000	20,56,000
II.—ARTICLES OF FOOD & DRINK ...	**78,21,420**	**1,41,48,431**	**2,63,57,118**	**3,81,72,100**	**5,16,77,190**	**5,27,54,983**
Liquors	25,95,325	34,27,629	28,12,056	37,90,206	48,50,559	58,17,349
Dates	5,26,856	16,45,653	16,95,392	18,13,030	28,16,140	35,91,153
Cloves	1,54,240	2,64,333	14,30,316	16,82,537	10,26,385	14,52,638
Sugar	21,63,720	53,35,210	1,45,75,058	2,06,27,211	2,61,73,604	2,00,89,380
Tea	6,86,770	7,78,883	24,29,217	31,01,317	22,62,914	13,26,322
Provisions (except Dates)	12,65,910	12,22,583	21,93,459	38,66,407	50,48,176	58,45,806
Spices (except Cloves)	1,97,475	2,97,572	2,42,823	11,06,303	9,29,403	20,79,901
III.—METALS & MANUFACTURES OF	**2,05,47,249**	**1,79,50,471**	**2,40,97,505**	**4,87,29,933**	**3,64,85,268**	**7,64,41,190**
Hardware and Cutlery	7,18,793	11,08,292	23,28,254	53,13,581	60,09,590	1,01,25,925
Copper	67,12,419	59,97,258	63,64,205	94,51,315	42,02,240	80,35,431
Iron	21,11,354	25,53,707	58,18,593	82,88,737	63,51,038	92,54,465
Steel	2,83,754	4,85,248	3,49,686	22,17,147	49,26,226	1,04,97,649
Machinery	14,86,148	15,57,373	23,73,628	93,39,564	72,23,304	2,57,88,518
Other Metals (other than Copper, Iron and Steel)	33,31,486	7,91,287	12,41,871	27,26,102	29,58,478	36,67,943
Railway Plant...	59,03,295	54,57,306	56,21,268	1,13,93,487	48,14,392	90,71,259
IV.—CHEMICALS, DRUGS AND DYEING	**17,63,160**	**21,27,953**	**41,60,858**	**77,93,727**	**96,02,161**	**1,39,41,713**
Chemicals	1,10,709	17,663	6,74,586	10,79,361	16,05,678	22,39,367
Tobacco	2,03,697	1,73,246	2,07,289	4,16,000	6,91,433	11,18,538
Dyeing and Tanning Materials ..	8,48,296	9,94,481	17,45,700	41,41,568	49,17,703	68,39,666
Camphor	57,909	1,62,960	1,29,933	4,07,613	4,51,036	14,74,289
V.—OILS	**46,340**	**3,82,605**	**21,87,033**	**71,36,094**	**1,13,13,009**	**77,84,837**
Mineral	504	50,967	19,89,693	64,08,406	1,25,46,552	71,48,870
VI.—RAW MATERIALS AND UNMANUFACTURED ARTICLES	**88,23,367**	**1,70,54,630**	**2,49,48,477**	**3,09,11,619**	**3,80,47,588**	**3,29,65,189**
Coal	13, [illegible]	2[illegible],76,635	8[illegible],970	1,20,70,030	17,88,716	42,12,759

Cotton	26,250	13,93,105	14,50,173	19,45,643	66,82,885	45,00,236
Ivory	11,91,408	11,83,695	20,54,332	30,98,455	15,88,022	12,58,980
Precious Stones and Unset Pearls..	11,59,186	12,11,272	12,55,560	12,63,337	42,28,355	84,49,271
Silk	40,29,066	87,67,200	87,39,536	87,01,601	85,39,241	45,88,876
Wool	2,01,949	7,757	1,27,935	5,40,958	17,65,283	53,63,558
Gums	3,91,950	5,97,271	10,19,173	7,84,717	8,09,365	11,71,433
VII.—ARTICLES, MANUFACTURED ...	**4,58,28,785**	**6,35,57,274**	**11,05,03,896**	**14,09,72,622**	**12,26,95,988**	**19,45,44,994**
Twist and Yarn, Cotton	29,41,425	85,78,113	93,00,947	1,08,13,456	40,20,205	92,05,181
Piece-goods, do.	3,35,68,814	4,13,94,121	7,15,11,444	8,35,76,184	6,46,85,435	9,79,44,524
Do. Silk	14,20,366	21,42,924	58,25,889	65,34,708	77,72,302	96,67,887
Do Wool	8,41,073	17,72,403	38,13,984	64,97,992	58,74,330	69,15,130
Apparel	7,97,979	14,99,378	26,79,783	49,12,313	52,78,650	87,64,030
Books and Stationery	9,67,597	4,38,452	8,99,561	17,66,683	24,93,651	3[illegible],75,162
Carriages, Carts and parts ..	2,47,465	1,54,848	1,71,528	5,05,736	9,44,822	47,27,419
Glass and Glassware	8,21,909	13,62,731	19,54,638	33,24,793	33,61,064	56,04,107
Scientific and other Instruments ...	1,83,800	2,56,919	4,08,044	10,58,111	15,93,857	42,00,031
Matches	35,551	2,01,278	4,38,038	8,97,040	13,18,835	18,40,335
Paints and Colours	2,47,173	3,74,894	8,25,424	13,86,983	15,63,542	21,37,451
Paper and Paste Board	42,258	11,13,231	19,04,204	22,28,132	23,38,363	37,02,910
Soap	63,969	49,036	2,09,073	4,66,148	7,78,630	12,70,331
Toys and Requisites for Games ...	38,497	1,19,389	3,43,701	5,63,877	6,24,009	11,97,193
Cotton (other than Piece-goods) ...	2,08,642	1,95,392	25,69,561	31,08,257	25,19,992	84,98,765
Silk (other than Piece-goods) ...	12,298	10,962	7,270	1,62,662	21,76,123	27,19,387
Wool (other than Piece-goods) ...	66,818	53,884	2,56,935	18,28,158	13,77,085	17,39,030
Earthenware	2,51,365	2,49,518	4,21,134	6,83,457	6,05,817	12,27,104
Leather	1,67,056	3,82,198	7,91,441	10,18,546	9,05,987	18,75,565
Articles Imported by Post ...	......	......	15,95,773	24,86,303	39,71,718	59,64,263
VIII.—GOVERNMENT STORES ...	**47,50,416**	**30,39,706**	**64,69,277**	**65,87,169**	**1,08,55,291**	**1,45,55,155**
IX.—SUNDRIES & OTHER GOODS	**87,330**	...	......	......	......	......
Grand Total ...	**9,02,59,067**	**11,83,18,320**	**19,91,77,014**	**28,17,08,769**	**27,42,61,281**	**39,51,01,435**